



THE ATOMICITY OF THE METALS.

ACCORDING to a promise given in our last number, we propose to present our readers with an account of certain important changes about to take place in chemical notation. These have resulted entirely from the logical development of Gerhardt's theory, and have already been adopted by Williamson, Odling, Wurtz, Kopp, and many other English and continental chemists; in fact, it is rumoured, we know not with how much truth, that a special committee of the Chemical Society are now sitting on the matter, and that a report, recommending the adoption of the new atomic weights, will be issued very shortly by that body. As far as this country goes, the progress of the new views has been comparatively recent; for only as late as the May of 1863 do we find Dr. Odling expressing his opinion,* "that the objections to Cannizzaro's general propositions (to double the atomic weights of calcium, lead, and certain other metals) are, in the present state of knowledge, too great to admit of its adoption." Since that time Dr. Odling has changed his views, and partially, if not entirely, adopted the new numbers. When so acute a reasoner as the learned doctor is so speedily converted, we may rest assured, almost without inquiry, that the new views are the correct ones, and submit our judgments at once to the proposed changes. However, our readers will no doubt prefer to have some reasons laid before them for the adoption of the new faith which we desire to see implanted in them; we cannot, therefore, do better than give them a short account of the paper read before the Chemical Society by the President, Professor Williamson, at the last meeting but one of that learned body. The paper will not easily be forgotten by those who had the privilege of hearing it. The intense interest displayed by the audience as the eloquent professor unfolded one by one the arguments in favour of his views was singular to witness. At the conclusion a perfect whirlwind of applause burst forth, which was renewed when the president of the evening, Mr. Warrington, proposed a vote of thanks to the professor. Coming as it did, too, from the President of the Chemical Society, it seemed to have a kind of official value, and almost to assume the form of a manifesto from the representative chemical philosophers of this country.

The paper was entitled "The Classification of the Elements in relation to their Atomicities," and had for its object the exposition of the chemical reasons for doubling the atomic weights, not only of oxygen, carbon, sulphur, &c., according to Gerhardt's views, but also those of all the metals except the alkali metals, gold, silver, arsenic, antimony and bismuth. The Professor commenced by stating that the doubling of these atomic weights was proposed by Cannizzaro some years ago, in order to do away with certain anomalies connected with the atomic heats of these substances; but the reasons he intended to adduce in support of his views would be entirely chemical. Briefly premising that the atomicity of an element was measured by the number of atoms of hydrogen that it would displace, the author proceeded to classify the elements into certain well-marked groups. He showed that when oxygen replaced hydrogen in any compound, it always drove out two, four, six, or some other number of atoms of hydrogen divisible by two; hence it was said to be *biatomic*. On the other hand, chlorine drives out one, two, three, or any other number of atoms of hydrogen, and was said to be *monatomic*. Hence, according to Gerhardt's views, the old equivalent of oxygen, 8, was doubled and made 16, the equivalents of hydrogen and chlorine remaining 1 and 35.5 as before. The arguments that applied to doubling the atomic weight of oxygen, applied equally to doubling those of sulphur, selenium, tellurium, and carbon. Carbon, however, sometimes displaced four atoms of hydrogen; hence it was

considered tetratomic as well as biatomic, and placed with silicon, tin, and titanium in a separate group.

Here, then, were already four well-defined groups of elements:—1, hydrogen; 2, chlorine, iodine, and bromine; 3, oxygen, sulphur, selenium, and tellurium; 4, carbon, silicon, tin, and titanium. Fluorine, about which we know nothing in a free state, was generally considered to be a halogen; but as there were reasons for supposing that it formed two sets of salts, acid and neutral, the Professor thought it ought to be placed with the oxygen group.

The next group—nitrogen, phosphorus, arsenic, antimony, and bismuth—were well marked, all of them being triatomic, and replacing triple atoms of hydrogen. They had always been treated as triatomic by the chemists of the old school, and were used by Gerhardt's followers as arguments for doubling the atomic weights of oxygen, sulphur, &c.

The alkali metals are essentially monatomic. They only form one series of salts, basic salts being unknown amongst them. Silver and thallium, although heavy metals, show so close an analogy to them that they too must be considered monatomic, and be classed, if not with them, at any rate in a group close to them.

Gold at present appeared to be both monatomic and triatomic. Boron was triatomic.

The ethyl compounds of zinc threw great light upon the atomicity of that metal. Zinc-ethyl in a state of vapour filled exactly the same volume as the vapour of ether, and the zinc could be substituted by oxygen, which was already proved to be biatomic. If, therefore, the atomic weight of oxygen was doubled, that of zinc must undergo the same process. The same reasoning applied equally to magnesium and cadmium, and gave us a well-marked group of biatomic volatile metals, with many common chemical properties.

The ethyl compounds of lead supplied similar reasons for considering that metal biatomic; calcium, strontium, and barium being of necessity classed with it.

The same arguments applied to iron, aluminum, chromium, and manganese; confirmation being sought in the analogy between ferric, aluminic, chromic and manganic acids, and sulphuric acid, which would be unperceivable except the equivalents of these metals were doubled.

The same line of reasoning being continued, we get another biatomic group with nickel, cobalt, and copper, the rest of the rarer metals apparently falling into the class.

Mercury seems to be both biatomic and tetratomic.

Thus all the elements are divided into two great classes, aptly named *PERISSADS*, from *perissos* (Gr.), odd; and *ARTIADS*, from *artios* (Gr.), even. The *perissads* replace one, three, and even five atoms of hydrogen; and the *artiads* replace two, four, six, &c., atoms of hydrogen.

The demands on our space in the present number prevent our continuing this subject further.

We conclude by warning our readers that at the present moment the greatest possible typographical confusion exists amongst our scientific contemporaries in formulating compounds, the rule of using *crossed* symbols when the doubled atomic weights are indicated being alternately obeyed and neglected. Thus the conductors of the journal of the Chemical Society allow water to be written H_2O and HO in alternate articles. The "Proceedings of the Royal Society," and nearly every other journal, are just as bad; the only exception to the rule being "Watts' Dictionary," in which the old formulæ are always printed in italics. The crossed letters we know are not to be found in every printing-office, but surely some agreement could be come to by the conductors of scientific journals always to use a particular class of letter for the double equivalent—"Clarendon," for instance, or "Egyptian"—and do away with the irregularities that at present render the comprehension of most chemical papers almost impossible.

C. W. Q.

THE STAMP DUTY.—A correspondent in Wolverhampton writes:—"Can a person licensed to sell patent medicines legally open a packet of pills, and retail them in penny-worths?" This query has been submitted to Mr. Worthington Evans, our legal adviser, who reports as follows:—"I am of opinion, that every portion of the original packet retailed in separate packets would be liable to the stamp duty, and that any person so selling the pills would incur penalties, notwithstanding the original packet was duly and properly stamped."

* Watts' Dic. of Chem., Vol. i. Art. "Atomic Weights," p. 471. Vol. V. 1864. No. 68.



UNITED SOCIETY OF CHEMISTS AND DRUGGISTS.

THIRD ANNUAL FESTIVAL AND GENERAL MEETING.

THE Executive Committee have the pleasure to announce that the Third Annual Festival of the Society will be celebrated by a dinner in aid of the Benevolent Fund on Wednesday, the 29th instant, at the Freemasons' Tavern, Great Queen-street, Sir Robert Jukes Clifton, Bart., M.P., having kindly consented to preside.

The Committee will be glad to receive the names of those gentlemen who are willing to act as stewards on the occasion (involving no responsibility beyond the price of a dinner ticket).

The musical programme will be under the superintendence of Mr. Fielding, Vicar-Choral of St. Paul's Cathedral, assisted by an efficient choir.

The Committee having made arrangements to invite ladies to grace the entertainment trust to be favoured by a numerous attendance. Tickets for dinner and dessert—for gentlemen 7s. 6d. and for ladies 5s. 6d. each, may be had at the offices of the Society, 20, New Ormond-street, W.C., at the CHEMIST AND DRUGGIST Journal office, 24, Bow-lane, Cannon-street West, or at the Freemasons' Tavern, Great Queen-street, and it is earnestly requested that those intending to be present will apply for their tickets not later than the 25th instant.

The Committee have also to announce that the Annual Meeting of the Society will be held at the offices of the Society, 20, Great Ormond-street, W.C., on Thursday, the 30th instant, at eleven a.m. precisely, for the purpose of receiving a report from the Executive Committee for a revision of the rules, for the election of the officers, and for the transacting of other business.

The Committee beg to add that the meeting will be entirely open to any one connected with the trade, as well as to the members of the Society.

LEEDS CHEMISTS' ASSOCIATION.*

LINIMENTUM SAPONIS—TINCT. OPII.

At a meeting of the Association, held May 18th, the President (Mr. Harvey) in the chair, Mr. J. Abbott read a paper on "Linimentum Saponis." Of the various galenical preparations of the Pharmacopœia, there is probably not one that has puzzled the chemist and druggist more than Lin. Saponis. The formula of the Pharmacopœia seems so explicit, that we might suppose any apprentice would readily prepare this liniment, and produce a perfect article; yet it is invariably deviated from, each chemist and druggist having a different process of making it, whereby soft soap is frequently substituted for hard soap, or weak spirit from that ordered in the Pharmacopœia. The substitution of soft soap for hard has received a little encouragement from the remarks of Dr. Pereira, in the 1st vol. of his "Materia Medica," page 305, where, referring to this liniment, he says, "If made with hard soap, as directed in the Pharmacopœia, this preparation is apt to solidify in cold weather; on this account, druggists generally substitute common soft soap. The only objection to this is its unpleasant smell."

With the intention of elucidating the subject, Mr. Abbott gave the results of several experiments, in each of which the spirit used was of the same strength as that ordered in the Pharmacopœia (18 fl. oz. of spirit to 2 fl. oz. of water).

1st Experiment.—Mottled Castile soap of commerce, 110 grs.; spirit, 2 oz. Digested at a temperature of 68° for three days. Filtered. The undissolved portion of soap, when pressed and dry, weighed 13 grs. The mixture limpid to freezing-point.

2nd Experiment.—Mottled Castile soap of commerce, 110 grs.; spirit, 2 oz. Dissolved at a temperature of 120°. The mixture gelatinous at ordinary temperature.

3rd Experiment.—White Castile soap, 110 grs.; spirit, 2 oz. Digested at 68° for three days. Filtered. The undissolved portion of soap, when pressed and dry, weighed 30 grs. The mixture limpid to freezing-point.

4th Experiment.—White Castile soap, 110 grs.; spirit, 2 oz. Dissolved at a temperature of 120°. The mixture gelatinous at ordinary temperature.

5th Experiment.—Olive oil soap, prepared as directed in the Pharmacopœia, by saponifying olive oil with caustic soda, 110 grs.; spirit, 2 oz. Digested at ordinary temperature. Filtered. Undissolved soap weighed, when dry, 6 grs. The mixture perfectly limpid to freezing-point, 32°.

6th Experiment.—Olive oil soap, as before, 110 grs.; spirit, 2 oz. Digested with heat until all was dissolved. The mixture did not gelatinize on cooling. Colour of each of the last two solutions pale green.

From these experiments the author concluded that the process of the Pharmacopœia was easy of application, and thought each chemist and druggist should prepare the hard soap in winter, by which a large proportion of margaric acid would be missed, the results proving that the gelatinization of the liniment was due to the excess of margarate of soda. The author was also of opinion that the directions of the Pharmacopœia would be more explicit if the liniment was directed to be filtered after three days' digestion.

At the same meeting Mr. E. Yewdall offered some remarks on the "Value of the Marc left in the preparation of Tinct. Opii by percolation," proving that the quantity of alkaloid in the marc experimented upon was considerably less than the results obtained by Mr. Davis, of Harrogate, from marc left in the process of maceration. The author did not, however, consider these experiments as fully bearing out any superior results of percolation over maceration, a different sample of Pulv. Opii having been used in each case, but thought the subject demanded more attention. A very interesting discussion followed, in which Messrs. Ward, Brown, B. Taylor, Abbott, and the President took part.

The President announced that this was the last meeting of the session.

LAW.

THE GREAT PARAFFIN CASE—YOUNG v. FERNIE.

THE trial of this case in the Vice-Chancellor's Court terminated on the 26th ult. after having occupied the Court for eighteen entire days, and a part of sixteen other days. A full report has appeared from week to week in the columns of *The Grocer*. We can only give a summary of the evidence and Sir J. Stuart's judgment.

The suit was instituted by Messrs. Young, Meldrum, and Binney, manufacturing chemists at Bathgate, in the county of Linlithgow, for an injunction to restrain the defendants, Messrs. Fernie, Carter, and Robinson, of Leeswood and Saltney, in the county of Flint, from infringing a patent dated the 17th of October, 1850, and granted to the plaintiff, James Young, "for improvements in the treatment of certain bituminous mineral substances, and in obtaining products therefrom;" for an account of all the paraffin oil, or oil containing paraffin, and paraffin manufactured according to the plaintiff Young's invention which had been sold by the defendants, and of the profits of such sales, and for payment by the defendants to the plaintiffs of such profits. The patentee, in the specification to his patent, said, "My invention consists in treating bituminous coals in such manner as to obtain therefrom an oil containing paraffin, which I call paraffin oil, and from which oil I obtain paraffin. The coals which I deem to be best fitted for this purpose are usually called parrot coal, cannel coal, and gas coal, and which are much used in the manufacture of gas for the purpose of illumination because they yield upon distillation at a high temperature olefiant and other highly illuminating gases in considerable quantity; and although some coals last described contain a large amount of earthy matters, those matters do not materially interfere with the performance of my process." The defendants denied having infringed the plaintiffs' patent, and said that the process of manufacture adopted and used by them was substantially different from that described in Young's specification; that the patent was invalid for want of novelty, and because the specification did not contain all the necessary

* Communicated by the Secretary.

information for the working of the patent possessed by the patentee at the date of the patent, and was framed so as to mislead, and was bad for apparent generality. The issues which the Court had to try were four:—1. Was the plaintiff Young the first inventor of the invention for which letters patent were granted to him? 2. Was the invention new within Great Britain and Ireland at the date of the patent? 3. Did the specification particularly describe the nature of the invention, and in what manner the same was to be performed? 4. Had the defendants infringed the patent?

The plaintiffs called Dr. Hoffman, Dr. Lyon Playfair, Dr. Odling, and many other witnesses of high scientific repute, who all stated that they had read the various publications and descriptions relating to the processes of distillation followed by Genssane, Lord Dundonald, Hompesch, Du Buisson, and especially by Reichenbach; but notwithstanding those prior descriptions they were of opinion that Mr. Young's process as patented was new, because he indicated the class of materials that could be operated upon, and the process that could be successfully employed so as to produce paraffin and paraffin oil in large quantities as a commercial product. Witnesses who had had practical experience in the manufacture or sale of paraffin and paraffin oil were also called on behalf of the plaintiffs, and stated that at the date of Young's patent the process described in his specification was, in a commercial sense, new. The plaintiffs also called witnesses who stated that the process followed by Messrs. Fernie and Co., the defendants, was substantially the same as that described by Mr. Young's specification. The defendants, on the other hand, called as witnesses Dr. Taylor, Dr. Dugald Campbell, Dr. Paul, and others, who stated that there was nothing in the specification of Mr. Young that was not well-known to chemists before the date of his patent; that if the process used long before by Genssane were applied to the same mineral as that now used by the plaintiffs—viz., boghead—the same kind of oil would be produced as that patented by Young; that there was nothing new in the apparatus or in the mode of distilling or of purifying the oil as described by Young in his specification; that the knowledge possessed by chemists was not increased by the information given by Young; that it was the discovery of the boghead coal, which was extremely rich in those constituent parts which gave off oil when distilled at a low heat, that constituted the real discovery in the manufacture of paraffin oil; that as soon as the boghead mineral was given to the world then the knowledge of the chemists, as it existed before the date of Young's patent, necessarily enabled them to produce paraffin oil from that mineral; that for a long time the use of paraffin was very limited, and its commercial success small, until the invention of German lamps enabled it to be burnt beneficially; that while the processes of distillation and purification described in Young's specification differed in no respect from those known before, he had not pointed out with sufficient or any precision what were the kinds of minerals that were best suited for the production of paraffin oil, nor did he make any mention of the boghead coal as such, but he stated that the coals he deemed to be best were "parrot coal, cannel coal, and gas coal," because "they yielded upon distillation at a high temperature olefiant and other highly illuminating gases in considerable quantity;" that some of the kinds of gas coal that produced olefiant gases would not answer commercially for the production of paraffin oil, and on that account Mr. Young's specification would mislead the public. The defendants also adduced evidence for the purpose of showing that at the oil distillery works at Wareham, in Dorsetshire, the same process as that described by Young was put into practical operation in 1849, before his patent; that oil containing paraffin was openly manufactured at the Wareham Company's works, and sold in large quantities as a commercial article before the date of Young's patent; that the oil containing paraffin made and sold at Wareham in 1849 and 1850 was distilled at a low red heat, and that it was made from Kimmeridge coal as well as Kimmeridge shale; that the Kimmeridge coal had been commonly burnt as a fuel in the cottagers' houses near Wareham, and that it possessed all the properties of coal in a higher degree than boghead coal. The defendants' witnesses said they thought the general description of the coals which Young in his specification proposed to use comprised the Kimmeridge coal, which had been used before the date of Young's patent. A similar use of a similar process at Pont-y-

pool and other places in Wales was also deposed to. The defendants also called as witnesses Mr. Fisher and Mr. Parkes, the former of whom stated that before the date of Young's patent he had made by a process exactly resembling Young's large quantities of oil containing paraffin from cannel coal and other coals; that he had obtained paraffin from that oil, that he had supplied large quantities of it to Mr. Alexander Parkes, of Birmingham, who said that he had obtained from oil so supplied to him by Mr. Fisher paraffin in small quantities, which he had used in making moulds or casts used by him in the ordinary course of his trade as an electroplater. Mr. Parkes also used similar oil for lubricating machinery. The defendants contended that the prior use proved by their witnesses destroyed the novelty of Mr. Young's patent; and that, inasmuch as they worked at a lower temperature—viz., a black heat,—whereas Mr. Young described a higher temperature,—viz., a low red heat, they had not infringed the patent. The plaintiffs, on the other hand, contended that the instances of prior use did not go beyond the stage of experiments, and that the application of a red heat to the outside of the retorts would cause the heat of the defendants' retort inside to be the same as that described by Mr. Young, and constituted an infringement. The defendants' counsel urged as objections to the patent in point of law, that the specification was bad, inasmuch as it only specified a class of coals, and did not mention what particular kinds in that class could be used, and what could not be used, beneficially for commercial purposes. Again, the specification did not distinguish, as it ought to have done, the parts of such specification that were admitted by the plaintiffs to be old—viz., those relating to the purification from the crude oil—from those that were alleged by the plaintiffs to be new. Further, that as the only invention as regarded the manufacture of paraffin and paraffin oil consisted in the application of the boghead mineral when it was discovered of the same processes that had been before used for shale and Kimmeridge coal and other minerals, a patent could not be legally taken out for such mere application, and if it were obtained the patentee ought in his specification distinctly to state what were the minerals that could be beneficially used, and that on these grounds the patent was invalid in point of law.

The Vice-Chancellor, in giving judgment, said that the main objection to the validity of the plaintiff's patent was that, both as to the process and the material, there was nothing new, and that the specification indicated nothing which was not publicly known and publicly used before the date of the patent. It appeared from the evidence that for very many years before the discovery of the substances now called paraffin and paraffin oils, the distillation of coals and bituminous substances at every variety of temperature had been well known and practised for the production of tars and oils, which had been used for lubrication of the ruder kinds of machinery and for burning. It was certain that the discoveries of Reichenbach of paraffin, naphthalin, and various other distinct substances as products from the carbonization of animal tar, vegetable tar, and coal tar about the year 1832 were treated by men of science as important discoveries; but Reichenbach, although he ascertained the existence of paraffin in coal, did not indicate coal of any kind as the material capable of producing paraffin or paraffin oils in most abundance. There was ample evidence that the attention of practical chemists was, previously to the date of Young's patent, laboriously directed to discover the proper material and the proper means of producing these articles in sufficiently large quantities for commercial purposes. Among others, Hompesch's patent was obtained in 1841 for obtaining oils from schist, or clay, slate, and asphalt, and his memorandum of alteration was made for the purpose of confining it to "other rocks or minerals containing bitumen or bituminous substances." Dupuisson's patent, granted in 1850, was remarkable for its recital that in England all attempts to make bituminous schistus useful had failed. His specification claimed a particular apparatus and process, and it stated that the presence of paraffin was scarcely perceptible in bituminous stone, asphalt, or other bituminous mineral substances, and that it was in schistus it was contained in the largest proportion. There was no evidence of a specification of any patent or any publication in which cannel coal, or coal which produced olefiant and other highly illuminating gases in considerable quantity, was indicated as the class of materials, among the wide range of animal, vegetable, and

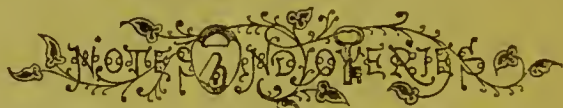
mineral substances, which, subjected to a proper process, would produce paraffin and the oils called by Young paraffin oils in large quantities so as to create a manufacture for commercial purposes, till Young's specification was published. Cannel coals had been tried by many, but without success. Among the many practical and manufacturing chemists who had been vainly attempting to find out how to manufacture paraffin oils and paraffin, so as to supply the markets, none had been fortunate. The fair result of the immense load of evidence in this case showed the prevailing opinion to have been that not coals of any kind, but shales or schists properly so called, were the best materials. The Vice-Chancellor here entered into an elaborate review of the evidence, and then proceeded as follows:—What the law looks to is the inventor and discoverer who finds out and introduces a manufacture which supplies the market for useful and economical purposes with an article which was previously little more than the ornament of a museum. It has been established to my satisfaction by the evidence in this cause that the plaintiff Young is an inventor of this class, and that his patent is entitled to the protection of the law. I find that he has ascertained by a course of laborious experiments a particular class of materials among many, and a particular process among many, which have enabled him to create and introduce to the public a useful manufacture which amply supplies the market with that which, until the use of the materials, and process, and temperature indicated by him, had never been supplied for commercial purposes. At the date of his patent something remained to be ascertained which was necessary for the useful application of the chemical discovery of paraffin and paraffin oils. This brings it within the principle stated by the Lord Chancellor in the late case of "Hill v. Evans." The manufacture, with the materials and process indicated by him, according to the sense in which I understand the word "manufacture" to be used in the statute, was a new manufacture not in use at the date of his patent. The principle upon which the present case should be decided is, to my mind, so clear that it is unnecessary to examine the cases cited by the defendants' counsel. Inventions in mechanics are as widely different from inventions in economical chemistry as the laws and operations of mechanical forces differ from the laws of chemical affinities, and the results of analysis and experiment in the comparatively infant science of chemistry with its boundless field of undiscovered laws and undiscovered substances. This observation, as applied to repeated cases, will strike the mind of every lawyer who has even a slight elementary knowledge of both sciences. But if it had been necessary to examine the authorities, there are to be found in them some propositions as to what amounts to a publication, and whether the use of a lock of a peculiar and improved construction upon a gate is notice to the public of the nature of the improvement, which would perhaps deserve serious consideration. It is not, I think, the habit of mankind to go about examining the construction of the locks on their neighbours' doors or gates. Even the few men endowed with an honest curiosity in examining mechanical inventions would probably not be anxious to be found taking models of their neighbours' locks or prying into the exact construction of fastenings intended to protect private property against the whole body of the public. But whatever may be the correct view of the law on that subject, the principle which seems to me to govern the present case is broad and clear. Twice already has the validity of this patent been established before tribunals of high authority—first before the Lord Chief Justice of England (Lord Campbell) and an English jury, next before the Lord President of the Court of Session in Scotland and a Scotch jury. All the most important part of the evidence before me was before those tribunals. I recognize in the Lord President's charge to the jury a just view of the law. If my own mind had not been well satisfied upon it, I should have hesitated long before I ventured to dissent from these two decisions. The conclusion is that I find in favour of the plaintiffs upon all the four issues; and there must be a decree in favour of the plaintiffs, with costs, to be paid and taxed by the defendants.

BOOKS RECEIVED.—The following works will be noticed as soon as we can find space:—Parrish's *Practical Pharmacy*. The new and improved edition of Nevins's *Analysis of the Pharmacopœia*. Daper's excellent *Manual of the Iron Preparations*. *Botany for Novices*. Watt's *Chemistry*, Part XVI. &c. &c.



A Companion to the British Pharmacopœia; Comparing the Strength of the Various Preparations with those of the London, Edinburgh, and Dublin, United States, and other Foreign Pharmacopœias; with Practical Hints on Prescribing. By PETER SQUIRE, F.L.S., &c. John Churchill and Sons. Price 8s. 6d.

HAVING been in the habit of consulting Mr. Squire's "Three Pharmacopœias," we were prepared to receive a carefully-arranged and thoroughly practical treatise on the British Pharmacopœia from the same author, but the work now before us certainly surpasses our highest expectations. As we run through its contents we cannot help thinking that the Medical Council could not find a better editor for the new edition of their much-abused work than the gentleman who represented the Pharmaceutical Society on their Committee. This book has all that the Pharmacopœia itself lacks. The medicinal properties of every article of the *Materia Medica* are fully described, and the dose of every preparation is accurately given. The differences between the Brit. Pharm. medicines and those given in the last editions of eight Pharmacopœias, English and Foreign, are pointed out. In fact, Mr. Squire's book supplies a want which every chemist and druggist has experienced. In our next we shall give a full account of this admirable work, but we now strongly advise our readers to buy it without delay.



THE ATHENÆUM ON THE BRITISH PHARMACOPŒIA.

The following paragraph is taken from a review of Mr. Haselden's little book on the Pharmacopœia in last Saturday's *Athenæum*:—"In the list of substances omitted in the new Pharmacopœia, though they have long ranked as articles of *Materia Medica*, there are a few items which will draw a sigh of regret from the lover of obsolete ways. Here are some of the substances which the reformers have either thrown on the dust-heap, or removed from the apothecary's shop to the housewife's store-room:—*ærugo*, *cornu*, *cornu ustum*, *panis*, *piper longum*, *sago*, *silex contritus*, *viola*, *amygda' a amara*, *avena*, *aqua destillata*, *cassia cortex*, *farina*, *marmor album*, *sodæ sulphas*, *ovum*. What will become of the human race now that its appointed healers of disease have lost faith in the curative powers of pepper, white marble, powdered flints, eggs and horn? What can be said on behalf of men who think mixtures can be made with ordinary pump-water just as well as with 'aqua destillata'?"—The reviewer in the *Athenæum* evidently knows nothing of the subject he writes upon. The appointed healers of disease have not lost faith in pepper; for though long pepper is banished from the *Materia Medica*, ordinary black pepper still holds its place among the official remedies. Mixtures are still ordered to be made with *aqua destillata*, which is, indeed, the only form of water allowed to enter into the composition of internal medicines. *Marmor album*, *panis*, and *ovum* are not omitted, but are placed in the Pharmacopœia as articles employed in the preparation of medicines, under the plain English names of marble, bread, and white of egg. *Ærugo* is also placed in the Appendix, as an article employed in analysis, under the name of subacetate of copper of commerce.

EFFERVESCENT CITRATE OF MAGNESIA.

H. Andrews (Manchester).—The following formula is founded upon that of Ellis and Co., given in Parrish's "Practical Pharmacy":—

Take of powdered citrate of magnesia, prepared by fusion (see below), ʒiv. ; powdered sugar, ʒiij. ; powdered citric acid, ʒiiss. ; powdered bicarbonate of soda, ʒiij. ; oil of lemons, mxx. Combine the acid and sugar, and rub into a fine powder; dry all the water of crystallization from the acid over a water bath. Add the citrate of magnesia, and oil of lemon, mixing intimately; then add the bicarbonate of soda and triturate the whole into a fine powder, which must be preserved in a bottle properly excluded from the air. Dose

for an adult, from 1 to 3 tablespoonfuls mixed in a tumbler of water and drank in a state of effervescence. The draught will not be clear, but it will contain the undissolved portion nicely suspended.

To prepare the true citrate used in the above formula, an equivalent of citric acid (say 10 parts) must be dissolved in the smallest possible quantity of water, and its own water of crystallization, by the aid of heat, avoiding a high temperature, and three equivalents of calcined magnesia (say 3 parts) must be stirred in. A pasty mass results, which soon hardens and may be powdered for use.

According to Landerer, the granular powder which is commonly sold as "citrate of magnesia" is prepared by heating tartaric acid, 300 grs., with bicarbonate of soda, 360 grs., in a porcelain dish just to fusion; and mixing the resulting compound when cool with citric acid, 20 grs.; sulphate of magnesia, 72 grs.; and oil of lemon, 5 grs.

A genuine granular citrate of magnesia is sold in London, but the process by which it is made has not been published.

AËRATED LEMONADE.

R. B. McC. (Banbridge).—Cooley states that the best lemonade of the London makers is prepared by putting $1\frac{1}{2}$ fl. oz. of rich lemon syrup into each bottle, which is then filled up with aërated water at the bottling machine. A good lemon syrup for this purpose may be made by the Ph. L. process, omitting the spirit, and aromatizing by adding 30 to 40 drops of essence of lemon, or 1 fl. oz. of a strong tincture of fresh lemon-peel. We find the following form in our note-book, but as we have not tried it, we cannot say what sort of lemonade it furnishes:—Take of tartaric acid, 1 oz.; essence of lemon, 20 drops; simple syrup, 1 gallon. Rub the essence with a little sugar, and afterwards with a portion of the syrup; and having dissolved the acid in a small quantity of water, mix the whole thoroughly together. One pint of this is sufficient for two gallons of carbonated water.

Possibly some of our practical readers will supply us with good working formulæ for aërated summer drinks.

PARAGORIC ELIXIR.

A. Palmer (Newcastle, co. Limerick) suggests the following extemporaneous method of making Tinct. Opii Camph., or the old Paregoric Elixir:—Take of tinct. opii, fl. 3x.; benzoic acid, gr. xlv.; camphor, 3ss.; oil of aniseed, fl. 3ss.; proof spirit, fl. 3xx. Mix and filter for use.

HAIR DYES.

The following odd letter has been sent to us for publication:—

Sir,—As that branch of Trichology which relates to the chemical processes employed in reducing some of the unseemly varieties of colour to which the hair is subject to a supposed standard of natural or ideal beauty, may not be deemed a subject unworthy the attention of the scientific, I trust you will pardon me for making an inquiry which I hope one of your readers will satisfy.

It would appear by our daily advertisements that every ignorant barber, however unacquainted with chemistry, had discovered some secret process; had, in fact, ransacked the whole arcana of science to remedy these affections of the hair.

Amongst chemists, as men of science, there should be no secrets, nor should this subject be left entirely in the hands of nostrum-mongers.

- 1st. What is the best and safest "hair-staining pomade?"
- 2nd. What is "glycerine hair dye?" How is it compounded?

I am, Sir, yours very truly,

ALCHYMISTA.

The greater number of hair dyes contain either lead or silver. Bismuth is the basis of a few, pyrogallie acid of others, and some owe their staining property to astringent vegetable juices. The art of combining these agents with oils, pomade, or glycerine cannot be beyond the reach of any intelligent barber. Happily these messes for discolouring the hair are going out of use. Grey locks are now boldly displayed by men and women in their prime, and red hair is becoming fashionable again, thanks to Pre-Raphaelite painters.

MINOR NOTES AND QUERIES.

P. A. S. (Hoxton).—Though we have had some experience in deciphering cryptographs, we have utterly failed in our attempt to make out the most essential part of your query. Be kind enough to write again—just a little plainer.

A Reader.—The "Proceedings of the American Pharmaceutical Association" cannot be purchased in England. Copies are supplied to the members, and a few are presented to scientific societies and editors of pharmaceutical publications. We should like to reprint the more important papers

in these columns, but while our correspondents insist upon taking up so much of our space it is impossible to find room for them. We trust that our subscribers will allow us to appear once a week next year, instead of once a month.

Chemicus (Southsea).—Colours for show-bottles have been given again and again. You will find what you require in vol. iv. (page 233) and vol. iii. (pages 56 and 176). The magenta dye (acetate of rosaniline) may be added to filtered rain-water until the proper shade is obtained.

E. P. (Newland).—Full directions for taking the specific gravity of liquids and solids are given in almost every elementary work on chemistry or natural philosophy.

M. S.—The wrapper undoubtedly renders the pills liable to the stamp duty.

Chemicus (Hartlepool).—Messrs. Ash and Co.'s dental materials are of a first-class character. Every requirement in making up artificial teeth may be obtained from this house. Mr. Lemale is another London maker who supplies working mechanical dentists with materials.

Wanted, the address of Mr. Watts or Mr. Reichardt, formerly carrying on a chemist's business at 225, Oxford-street, Manchester, as the firm of Watts and Reichardt, but more recently as Watts and Co., 7, Princess-street, Manchester.



THONGER'S PATENT CAUTION LABEL.

The object of this label, which is intended to be employed only with poisonous medicines and those used for outward application, is to prevent accidental poisoning, by the caution which its peculiar nature involuntarily suggests when the bottle is taken into the hand. The patent consists in the application of a broad bordering of rough glass paper around the label. The effect of this on coming in contact with the hand is so well marked that it is impossible to conceive that it should be taken up without being noticed. This effect is as surely produced during the darkest night as in the daylight; and, as was quaintly remarked to us by a distinguished pharmacist, the label almost suggests that a lucifer should be struck on its roughened surface to enable the nature of the contents of the bottle to be seen. It appears to us to be the most practically useful poison label that we have seen. It is manufactured in the various sizes required both for dispensing and retail bottles.

RIMMEL'S NEW PERFUMES.

Mr. Rimmel has forwarded for examination some new perfumes of very superior fragrance. These are named the "Stella Colas Bouquet," the "May Blossom," and the "Lily of the Vale." The latter is the most successful effort at extracting and rendering permanent what is generally regarded as a most evanescent perfume. The true delicacy of the flower is retained to a greater degree than we should have thought possible with so delicate and delightful an odour.

The preparation of lime-juice and glycerine for cleansing the hair has been practically tested in use, and is reported to us as being of a very superior character to the other preparations used for the same purpose, being both efficient and agreeable.

GAZETTE.

BANKRUPTS.

THOMAS BAKER FLOOD, Bobover-street, Portland-road, Marylebone, assistant to a mineral water manufacturer.

PATRICK BERNARD HORGAN, East Stonehouse, senior dispenser in the Royal Naval Hospital.

JABEZ BUNTING JACKSON, Leicester, druggist.

WILLIAM SCARLETT, Hanley, Staffordshire, chemist.

PARTNERSHIPS DISSOLVED.

BLAND and FLETCHER, Bradford, Yorkshire, or elsewhere, manufacturing chemists.

J. E. and H. G. DYSON, Sheffield, chemists.

ISHERWOOD and HORROCKS, Stonecough, Lancashire, manufacturing chemists; as far as regards S. and J. Horrocks.



LONDON, JUNE 15, 1864.

CORRESPONDENCE.—All communications should be addressed to the Editor, at 24, BOW-LANE, E.C.; those intended for publication should be accompanied by the real names and addresses of the writers.

QUERIES.—The Editor cannot undertake to attend to those which are anonymous, or to send answers through the post.

SUBSCRIPTION.—The subscription to the CHEMIST AND DRUGGIST is 5s. per annum, payable in advance. Should a receipt be required, a stamped envelope must be sent with the amount of subscription. A specimen number may be had upon application, price 6d.

POST OFFICE ORDERS.—Post-Office Orders to be made payable at the General Post Office to the Publisher, JAMES FIRTH, who is alone authorized to receive accounts.

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The CHEMIST AND DRUGGIST is published on the Fifteenth of every month, and regularly supplied direct to the Members of the Trade in Great Britain, Ireland, the Colonies, and all the principal seats of foreign commerce.

THE FORTHCOMING FESTIVAL.

A CHARITABLE institution cannot afford to let a year pass without a festival of some kind. Once a year at least its supporters must meet together at the dinner-table or in the ball-room, where the asperities of official intercourse are exchanged for the amenities of convivial fellowship. There must be one red-letter day upon which the men who are working for a common object may come face to face as friends, help-mates, and brothers in arms—and *alms*.

We are glad to hear that the Executive Committee of the United Society have found time to make arrangements for a third annual festival in aid of the Benevolent Fund. This will be held in the great hall of the Freemasons' Tavern on Wednesday the 29th instant. It will take the form of a Dinner, and as the Committee have wisely determined to repeat last year's happy experiment of issuing ladies' tickets, it will doubtless be a very brilliant affair. Sir Robert Jukes Clifton, Bart., M.P., has in the kindest manner consented to occupy the Chair. Further particulars may be obtained from the official notice printed in another column. We trust that this third Annual Festival will be even more successful than the last, and that the growing fund established for the relief of our unfortunate and suffering brethren may be largely increased by that practical "grace after meat" which so fitly concludes every public dinner of this kind. At the present time the United Society will be expected to show a good front, and we do hope to see a large gathering of ladies and gentlemen, in which the trade of the country, as well as that of the town, will be well represented.

PROPOSED LEGISLATION AFFECTING CHEMISTS AND DRUGGISTS.

THE Twenty-third Anniversary Meeting of the Pharmaceutical Society has been held since the publication of our last number, and we learn from the report given in the *Journal* that some of the leading pharmacutists look with little favour upon the scheme of legislation proposed by their Council. Mr. Collins had the courage to express opinions essentially similar to those which have been advanced by our own correspondents. He exposed the injustice of the proposal to withhold from ordinary chemists and druggists the privileges enjoyed by the 1,500 unexamined men of the Pharmaceutical Society. He reminded his hearers that in applying to Parlia-

ment for extended powers they could not claim for these unexamined members a distinction which they might fairly enjoy as long as the Society depended on voluntary support. The assertion that chemists could not be injured by the passing of the Act, was dismissed by him in the following words:—"It was all very well to say they left the outsiders in the same position as before; that was true; but they lifted themselves a little higher at the same time, and increased the distance between the two. It had been said by a great statesman that preference in some cases was persecution. They were creating a preference, and from its being sanctioned by law it would be regarded as persecution."

The amendment which Mr. Collins proposed, but afterwards withdrew, was to the effect that all duly qualified dispensing chemists throughout the United Kingdom should be admitted into the Pharmaceutical Society as members.

Mr. W. B. Randall, of Southampton, also spoke up for the outsiders. "He thought there was some weight in several of the objections that had been put forward to the Bill in the CHEMIST AND DRUGGIST. He was a pharmaceutical chemist but not by examination, and there were gentlemen in his town who were apparently quite as well qualified to act in every way as himself; and he could not help thinking that his putting up Pharmaceutical Chemist to make the public believe that he was a better man than his neighbours was a sham He thought Mr. Edwards, in moving the adoption of the Bill, was not strictly correct when he said the Society did not propose to govern the chemists and druggists, but only to register them, because they proposed that after the passing of the measure none but those should dispense medicines, which would establish it as the governing body of the pharmacutists of the country."

Mr. Brady, again, "was of opinion that a measure for regulating pharmacy must be more expansive than anything they yet had. They were a comparatively small body, and he did not think that those outside the Society had sufficient credit given to them, especially by the London chemists, for the abilities they possessed. The Pharmaceutical Society was not held in so much estimation in the remote provinces as it was in the metropolis, and consequently its diploma was less valued. Of the leading men who practise pharmacy, not more than three-fifths were members of the Society, and many of those who were not members were equal in social standing and influence to those that were."

Mr. Reynolds, a member of the Council, brought forward the following resolutions, that had been agreed to by the pharmaceutical chemists of Leeds:—

"1. That the proposals of the Pharmacy Bill to restrict the use of the terms 'chemist' and 'druggist,' and to prevent the keeping open shop for the dispensing prescriptions by other than registered persons, are attended by so many difficulties that they are not feasible. This meeting would consider it preferable to take as the basis of legislation an enactment confining the sale of certain powerful poisons to persons registered as being qualified for such a trust. It also considers that an annual subscription should be substituted for the single registration fee proposed by the Bill.

"2. That the class of 'chemists and druggists' proposed to be registered under the Bill is entitled, upon every principle of justice, to self-representation in the body by which it would be governed, and also to exemption from serving on juries. This meeting regrets that the Bill does not admit these rights.

"3. That for the reasons above set forth, and because believing that the Bill will not be generally acceptable, either to the members of the Pharmaceutical Society or to chemists and druggists, this meeting would urge upon the Council its reconsideration."

These arguments against the Bill proceeding from members of the Pharmaceutical Society, ought to be remembered by chemists and druggists when criticising the acts of that body. The fact that there are numerous pharmaceutical chemists who are well disposed towards their fellow tradesmen, and willing to join in any work for the common good, is too often lost sight of by our correspondents. We find, however, that the plain-speaking of these liberal members was not followed by any independent action on their part, for Mr. Collins was prevailed upon to withdraw his amendment, and the original motion, that the Bill be received and adopted, was carried unanimously.

Those who spoke against the Bill, as well as those who defended it, seemed to imagine that the outsiders coveted the title of "Pharmaceutical Chemist." This is not the case. If anything written by us has produced the impression, we regret it exceedingly. This journal certainly does not advocate the extension of a mere fancy title. We say let it be a distinction that means something—a mark by which the man who has passed his examinations may be known. The

chemists and druggists are content to remain simple chemists and druggists; but they desire an Act of Incorporation, which, by confirming their present rights, will place them beyond the reach of unjustifiable legislation, and which at the same time will provide for the future elevation of their body. Such an Act has been proposed by the United Society, and no time should be lost in getting it drafted and introduced into Parliament. If the pharmaceutical chemists would give this Bill their support, the chemists and druggists would speedily forget old differences; and, in course of time, the wants of the public would be supplied by two classes of examined and qualified dispensers—the pharmaceutical chemists, or men who had passed the highest examination in pharmacy; and the chemists and druggists, who had merely passed such an examination as would insure their efficiency as dispensers of medicines and retailers of poisons. The college in Bloomsbury-square would then be the Alma Mater of the whole trade, and the examining boards throughout the kingdom might be connected with it. It is for the pharmaceutical chemists to decide whether they will work for such a result, or whether they will continue to go on in their old jog-trot way.

The United Society need not fear that the present Bill of the Pharmaceutical Council will obtain the sanction of the legislature, but it must be prepared with its own measure. Should help come from the Pharmaceutical Society, the Executive Committee ought to accept it gratefully, but after the rejection of their offer to meet the Council in friendly conference, they must not make further overtures.

Our correspondents have this month written so well and so fully on the proposed legislature affecting chemists and druggists, that there is little left for us to write—though much more than we can find space for. Mr. Proctor's letter is a manly and temperate defence of the Pharmaceutical Society, just the sort of letter we might expect from the writer. We have no doubt, however, that some of the leading members of the United Society will be able to show the weakness of many of the points in this defence. Mr. Proctor corrects one error inadvertently made by us—we do not hold ourselves responsible for mistakes made by our correspondents: instead of saying that the Bill proposes that none but "pharmaceutical chemists" shall commence business as dispensers after the 1st of January, 1865, we should have said, none but "pharmaceutical chemists, and chemists who have passed the minor examination of the Pharmaceutical Society." We can assure Mr. Proctor that we did not purposely misrepresent this clause of the Bill. The replies to the long letter of last month, headed "Audi Alteram Partem," show that "W. W.," the champion of the Pharmaceutical Society, resembles the knight in the fable who only saw one side of the shield. The letter of "An Outsider" contains a suggestion which is particularly deserving of the attention of those pharmacutists who wish to come to a good understanding with outsiders. The letter touching the wholesale trade will be read with interest by all chemists and druggists connected with the United Society.

A REVIEW OF THE BRITISH PHARMACOPŒIA.

BY J. C. BRAITHWAITE AND J. C. BROUGH.

V. PREPARATIONS OF THE METALS.

BESIDES the metals of the alkalies and the earths, we find no fewer than fourteen metallic elements in the Brit. Ph., viz., manganese, iron, chromium, zinc, bismuth, copper, lead, tin, antimony, arsenic, mercury, silver, gold, and platinum. The greater number of these occur as constituents of medicinal salts and compounds; the rest are represented by articles employed in chemical analysis.

MANGANESE.

Though the sulphate and other salts of manganese are regarded by many as useful tonics and cholagogues, they are not admitted into the Mat. Med. of the Brit. Ph. This element is, however, represented by the binoxide, or

Black Oxide of Manganese (MnO_2), which is placed in the Appendix among articles employed in the preparation of medicines. "Potassa Permanganas" and its "Liquor" have already been noticed (see page 57).

IRON.

Twenty-four medicinal preparations of iron, many of which are not to be found in either L., E., or D., are contained in the Brit. Ph.

FERRUM REDACTUM.—*Reduced Iron.* This is the "Ferri Pulvis" of D., and is described in the Mat. Med. as "metallie iron, with a variable amount of magnetic oxide of iron." The process is a slight modification of that given in D., and consists in subjecting sesquioxide of iron at a high temperature to the reducing influence of hydrogen which has been rendered quite dry by passing first through sulphuric acid and then over fragments of chloride of calcium. Draper * states that the precaution of drying the hydrogen is unnecessary, and recommends the U. S. plan of passing the gas first through solution of acetate of lead to remove traces of sulphuretted hydrogen, and then through milk of lime to absorb any acid that may be carried over from the generating vessel. Reduced iron has long been employed abroad as "*Fer réduit*," and Dr. Garrod unhesitatingly affirms that it is one of the most potent remedies known in restoring the healthy condition of the blood in all anæmic states of the system. The same authority states that even a single grain, repeated two or three times a day, produces, when continued for some time, a marked influence upon the constitution of the blood, when this fluid is impoverished in respect to its red corpuscles. The dose, according to Draper, is from one to ten grains. It has little taste, and when taken between two pieces of bread-and-butter it is scarcely detectable by the patient.

Iron Wire is placed in the Appendix, being described as "Annealed iron wire, binding wire." It appears in the Mat. Med. of L., E., and D. under the name "*Ferrum in fila tractum*." Iron filings ("*Ferri Limatura*," E. and D.) are omitted.

FERRI OXIDUM MAGNETICUM.—*Magnetic Oxide of Iron.* This is described as "peroxide of iron Fe_2O_3 , with about nine per cent. of protoxide of iron FeO , and twenty-two of water." It is not the common scale iron reduced to powder, but a precipitated oxide carefully dried over sulphuric acid without heat. The process is a modification of that given in E. for "*Ferri Oxidum nigrum*," as it is there named. Solution of soda is used as the precipitant instead of the stronger aqua ammoniæ as in the E. process. The introduction of this oxide from the E. and D. will probably lead to its extended use. It is, however, thought to be less effective than reduced iron as a hæmatinic. The dose may be from three to five grains, or even more (Garrod).

FERRI PEROXIDUM.—*Peroxide of Iron.*— $\text{Fe}_2\text{O}_3, \text{HO}$. The D. name is adopted for this oxide, that of L. being "*Ferri sesquioxidum*," and that of E., "*Ferri Oxidum rubrum*." It is prepared by drying the hydrated peroxide, noticed below, and is used for making

EMPLASTRUM FERRI.—*Chalybeate Plaster.* The other ingredients in this preparation are litharge plaster and Burgundy pitch, the D. formula having been adopted. The corresponding preparation of L. contains prepared frankincense in place of the Burgundy pitch, and that of E. a mixture of resin, olive oil, and bees'-wax.

FERRI PEROXIDUM HYDRATUM.—*Hydrated Peroxide of Iron.* Described as "hydrated peroxide of iron, $2 \text{Fe}_2\text{O}_3, 3 \text{HO}$, with a variable amount of uncombined water." This is prepared by a slight modification of the process given in the D. under the same name, but in the Brit. Ph. the first half of the process is given under "*Solution of Persulphate of Iron*" in the Appendix. The oxide is precipitated from this solution by a solution of soda, and washed on a calico filter until every trace of sulphuric acid is removed. The hydrated oxide is used as an antidote to arsenious acid in cases of poisoning, from its power of forming an insoluble compound with that acid. Dose, a tablespoonful every quarter of an hour (Nevins). When heated with proper precautions, the excess of water is expelled, and a definite compound of peroxide of iron with 1 equiv. of water remains, forming the present "*Ferri Peroxidum*" (see above); this is far preferable to the "*Ferri Sesquioxidum*" of L., which is liable to vary in its composition from the way in which it is prepared.

FERRI PERNITRATIS LIQUOR.—*Solution of Pernitrate of Iron.* This is described as "pernitrate of iron $\text{Fe}_2\text{O}_3, 3 \text{NO}_2$ in solution in water," and the process given is that of the D.,

* "Manual of the Iron Preparations," p. 2.

by dissolving iron wire in very dilute nitric acid. We have found that a solution made by double decomposition of nitrate of baryta and persulphate of iron keeps better than that made by the Pharmacopœia process. It is a powerful astringent. Dose, fifteen minims. This liquor is not in L. and E.

FERRI SULPHAS.—*Sulphate of Iron.*— $\text{FeO}, \text{SO}_3 + 7 \text{HO}$. Instead of the processes for purifying the commercial sulphate given in L. and E., we are now ordered to adopt the D. process, which consists in dissolving iron wire in dilute sulphuric acid, filtering, and crystallizing.

FERRI SULPHAS EXSICCATA.—*Dried Sulphate of Iron.* The process combines the formulæ of E. and D., and is both simple and effective. The preparation is not included in L.

FERRI SULPHAS GRANULATA.—*Granulated Sulphate of Iron.* This elegant preparation is taken bodily from D., the only change made being in its gender, the "granulata" of the Brit. Ph. being "granulatum" in the Irish work. It is much less readily oxidized by exposure than the ordinary form of the crystals, and may be used either as a medicine or as a test.

Solution of Sulphate of Iron is given as a qualitative test in the Appendix.

Sulphuret of Iron.— FeS . This is also named in the Appendix, as an article employed in chemical analysis.

FERRI PERCHLORIDI LIQUOR.—*Solution of Perchloride of Iron.* Described as " Fe_2Cl_3 , in solution in water." This new liquor is prepared by dissolving iron wire in hydrochloric acid, and converting into the Perchloride by means of nitric acid. The quantity of hydrochloric acid ordered is barely sufficient, and in practice it will be better to employ a slight excess. Its strength is such that 1 fl. oz. yields nearly 125 grs. of the peroxide. Liq. Ferri Perchloridi is a very powerful styptic, but it appears to have been introduced into the Ph. for making

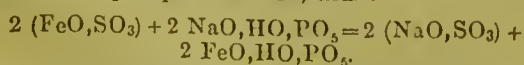
TINCTURA FERRI PERCHLORIDI.—*Tincture of Perchloride of Iron.* This is a substitute for the "Tinct. Ferri Sesquichloridi" L. and D., and "Tinct. Ferri Muriatis" E. It corresponds pretty closely with the L. and E. preparations in strength, but has only one-fourth the strength of the D. tincture. It is a good preparation, being of definite strength, and free from the acidity which characterizes the old tinctures. Dose, from 15 to 30 minims (Nevins).

FERRI IODIDUM.—*Iodide of Iron.* $\text{FeI} + 4 \text{HO}$. The process given for this salt is essentially the same as that of D. The only alteration consists in the substitution of iron wire (as ordered in E.) for filings or turnings. There is no such preparation in L. The dose is from 3 to 6 grs. It is not a good form of medicine, as it becomes oxidized on exposure to the air. The pill and syrup noticed below are more eligible forms of the remedy.

PILULA FERRI IODIDI.—*Pill of Iodide of Iron.* A new preparation resembling somewhat the "Blancard's Pills," official in the U. S. Ph. The decomposition of the iodide is retarded by sugar. Dose, 5 gr.

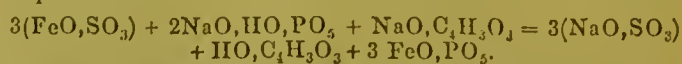
SYRUPUS FERRI IODIDI.—*Syrup of Iodide of Iron.* This resembles the syrups of L., E., and D. The process appears to be an improvement upon the old ones.

FERRI PHOSPHAS.—*Phosphate of Iron.* Described as " $3 \text{FeO}, \text{PO}_5$, partially oxidated," and prepared by adding phosphate and acetate of soda, dissolved in distilled water, to a solution of sulphate of iron. The introduction of the acetate of soda into the formula has, doubtless, puzzled many students of the Pharmacopœia. We will endeavour to explain the part it plays in the decomposition. Phosphate of soda has the composition expressed by the formula $2 \text{NaO}, \text{HO}, \text{PO}_5$, and the object of the process is to replace the 2 atoms of soda (2NaO) and the 1 atom of basic water (HO) by 3 atoms of protoxide of iron. Now, if we merely mix 2 atoms of sulphate of iron with 1 atom of phosphate of soda, we get, by double decomposition, sulphate of soda and a *dimetallic* phosphate of iron, thus:—



But the salt prescribed in the Ph. is the *trimetallic* phosphate, consequently 3 atoms of sulphate of iron are required to produce it. However, if we merely increase the quantity of the iron salt without otherwise altering the process, sulphuric acid (HO, SO_3) will be liberated; and as this acid readily dissolves the phosphates of iron, its presence interferes with the precipitation of the required product. By

bringing 1 atom of acetate of soda into the company of the two salts, we get a reaction which leaves no excess of sulphuric acid, but gives instead free *acetic acid* in which phosphate of iron is insoluble. This reaction may be thus expressed:—



In theory, therefore, the process of the Ph. appears to be perfect; but as we have not yet practically tested it, we cannot say whether it is effective or not. It should be remembered that the phosphate of iron which has hitherto been used in medicine, and which is official in the present U. S. Ph., has, when freshly precipitated, the composition expressed by the formula $2 \text{FeO}, \text{HO}, \text{PO}_5$. The "slate-blue colour" of the new product is due to its partial oxidation, or, in other words, to the conversion of a part into the phosphate of the sesquioxide. The test given in the Mat. Med. is to guard against the presence of arsenic.

SYRUPUS FERRI PHOSPHATIS.—*Syrup of Phosphate of Iron.* The phosphate being prepared by a slight modification of the above process, is pressed between folds of blotting-paper, and at once dissolved in dilute phosphoric acid; the solution is then filtered and mixed with sufficient refined sugar to form a syrup. Each drachm of this syrup contains a little more than 1 gr. of the phosphate of iron. (Dr. Nevins incorrectly states that the drachm contains $3\frac{1}{2}$ grs.) The dose is 1 to 3 fl. dr. No such preparation appears in L., E., or D.

FERRI CARBONAS SACCHARATA.—*Saccharated Carbonate of Iron.* This is explicitly described as " FeO, CO_2 , mixed with Peroxide of Iron, and Sugar, and forming at least 57 per cent. of the mixture." The process is very similar to the E. and D. processes for "Ferri Carb. Saccharatum," and is a considerable improvement on that of L. for "Ferri Carb. eum Saccharo," especially in the directions for protecting the mixed solutions from the air, and rubbing the precipitated carbonate with the dry sugar, instead of previously dissolving the latter in water—which not only lengthened the process unnecessarily, but exposed the carbonate to oxidation. Dose 5 to 30 grs.

PILULA FERRI CARBONATIS.—*Pill of Carbonate of Iron.* This is prepared by the E. process. Not in L. or D. It contains 36 per cent. of carbonate of iron. Dose 5 to 20 grs. It is the substitute for "Pil. Ferri comp." L., which is omitted, but differs from that in being prepared without myrrh, and in containing nearly thrice as much carbonate of iron.

MISTURA FERRI COMPOSITA.—*Compound Mixture of Iron.* Prepared by a slight modification of D. process. It is much more aromatic than the corresponding mixtures of L. and E., owing to the increased strength of the spirit of nutmeg. Dose $\frac{1}{2}$ to 1 fl. oz.

FERRI ARSENIAS.—*Arseniate of Iron.* Described as " $3 \text{FeO}, \text{AsO}_5$, partially oxidated," and prepared by a process analogous to that adopted for Ferri Phosphas. It is obtained as a greenish powder, and is said to be useful as an internal remedy in certain chronic cutaneous diseases and in cancer. It is a most dangerous medicine, as may be seen by the dose which is given by Draper, from 1-20th to 1-5th of a gr. Dr. Garrod says he cannot conceive that it possesses properties which render it peculiarly desirable as a remedial agent.

FERRI ET AMMONIÆ CITRAS.—*Citrate of Iron and Ammonia.*— $(\text{Fe}_2\text{O}_3, \text{NH}_4\text{O}, \text{HO}, \text{C}_{12}\text{H}_{11}\text{O}_{11} + 2 \text{HO})$? The process for this beautiful scale preparation is a great improvement upon that given under "Ferri Ammonio-Citras" in L., by which, if the instructions were strictly adhered to, it was next to impossible to make the compound. No such preparation in E.; but in D. a process something like the present is given.

FERRI ET QUININÆ CITRAS.—*Citrate of Iron and Quinia.* Described as "Citric acid combined with Peroxide of Iron, Protoxide of Iron and Quinia." Though this has long been one of the most popular preparations of iron, there has hitherto been no authorized process for making it, and manufacturers do not seem to agree as to the amount of quinine to be used. The formula now given is, however, most unsatisfactory, and will not yield a product agreeing with the description given in the Mat. Med. We have prepared a sample with the greatest care, and find that it has a dull olive instead of the "greenish golden-yellow" colour which is so much admired. It contains the proper proportion of

citrate of quinine, but like much of the Ferri et Quiniae Cit., now found in commerce, it is not very soluble.

FERRI TARTARATUM.—*Tartarated Iron.*—"Tartrate of Iron and Potash, $\text{Fe}_2\text{O}_3, \text{KO}, \text{C}_8\text{H}_4\text{O}_{10} + \text{HO}$." The process given is a decided improvement on the old formulæ ("Ferri Potassio-tartras," L.; "Ferrum Tartarizatum," E. and D.). We do not, however, see any necessity for the use of so much water.

VINUM FERRI.—*Wine of Iron.* This is prepared by dissolving tartarated iron in sherry. The product must be more definite in composition, and we should imagine in every respect preferable to that of the L. process. Each fluid drachm contains 1 gr. of tartarated iron. Dose $\frac{1}{2}$ to 1 fl. oz.

Omissions.—Ferri Ammonio-Chloridum, L.; Ferri Carbonas, D.; Ferri Sulphas Venalis, L.; Ferri Sulphuretum, D. and E.; Ferri Valerianas, D.; Mistura Ferri Aromaticæ, D.; Pilula Ferri comp., L.; Pil. Ferri Sulphatis, E.; Tinctura Ferri Acetatis, D.; Tinet. Ferri Ammonio-Chloridum, L.

CHROMIUM.

This metal is only represented by a *Volumetric Solution of Bichromate of Potash*, already described.

ZINC.

The *zinc of commerce* and *granulated zinc* are placed in the Appendix, among articles employed in the preparation of medicines.

ZINCI OXIDUM.—*Oxide of Zinc.*— ZnO . Prepared by exposing the carbonate to a dull red heat. Contained in L., E., and D.

UNGUENTUM ZINCI OXIDI.—*Ointment of Oxide of Zinc.* From oxide of zinc and simple ointment, according to the D. formula. Same strength as "Unguentum Zinci," L., E., and D. The excipient ordered in L. is lard; in E., simple liniment.

ZINCI SULPHAS.—*Sulphate of Zinc.*— $\text{ZnO}, \text{SO}_3 + 7\text{HO}$. The process given yields a very pure product. Granulated zinc is dissolved in diluted sulphuric acid, and the solution when filtered is treated with solution of chlorine in order to convert any iron present into the peroxide; carbonate of zinc is then added to replace this in solution, and the process is completed by filtering the solution from the precipitated iron, evaporating and crystallizing. This salt is simply placed in the Mat. Med. of L., but processes are given in E. and D.

ZINCI CHLORIDUM.—*Chloride of Zinc.*— ZnCl . The process is similar to that given for the sulphate, solution of chlorine and carbonate of zinc being employed to remove iron. In the D. process solution of chlorinated lime and prepared chalk are used for the same purpose. In the L. process no precaution is taken to get rid of impurities. The chloride is not in E.

ZINCI CARBONAS.—*Carbonate of Zinc.*— $(\text{ZnO}, \text{CO}_2 + \text{HO}) + 2(\text{ZnO}, \text{HO})$. This, which replaces the "Calamina preparata" of L. and E., is produced by double decomposition of sulphate of zinc (now a pure salt) and carbonate of soda. It requires to be washed until every trace of sulphate of soda is removed, as this impurity would be most objectionable in the oxide, which, as noticed above, is obtained by heating the carbonate. No separate process for precipitated carbonate of zinc is given in either L. or E., but in each a process is included in the formula for "Zinci Oxidum." We there find the sesquicarbonate of ammonia ordered as the precipitant, a salt much more expensive than carbonate of soda. The D. process differs from the present in prescribing the solution of chloride of zinc instead of the sulphate.

ZINCI ACETAS.—*Acetate of Zinc.*— $\text{ZnO}, \text{C}_4\text{H}_3\text{O}_3 + 2\text{HO}$. A salt included in the D., but introduced in the present work with a new and preferable process. It is used as an external agent in place of the sulphate, and may also be employed as an internal remedy in doses of 1 gr. and upwards.

ZINCI VALERIANAS.—*Valerianate of Zinc.*— $\text{ZnO}, \text{C}_{10}\text{H}_9\text{O}_3$. This valuable salt is also placed in the D., but is now for the first time made officinal in England. The D. process slightly modified is given. As this salt is very liable to be adulterated, its introduction is a good thing. It may be given in doses of 1 gr. to 5 grs. in hysterical affections, and other more serious diseases of the nervous system, as chorea, epilepsy; &c. (Garrod).

Omissions.—Calamina preparata, L. and E.; Liquor Zinci Chloridi, D.

[We will conclude our review of the preparations of the metals in our next.]



THE MEETING OF THE PHARMACEUTICAL SOCIETY.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

June 10, 1864.

SIR,—The Report of the Annual Meeting of the Pharmaceutical Society, which appeared in their Journal for this month, must have convinced every reader that the hope of that Society to pass its bill was very slight indeed. Out of fourteen members who addressed the meeting, nine were of opinion that it could not become law. The opposition raised by the United Society was powerfully felt. Does not this at once plainly proclaim that the Pharmaceutical Society is not acting for the trade, but exclusively for itself? As the opposition is to come from the trade, represented by the United Society, does it not more than ever clearly show the great error the Pharmaceutical Council committed in refusing to meet the deputation from the United Society in conference. Had they done so, and both made reasonable concessions, a modified bill might have been framed, reserving all the privileges of the Pharmaceutical Society to examined members, and the opposition which now threatens on both sides would have become a cordial co-operation for the general good.

It is much to be regretted, that two Societies, which, if on friendly terms, might effect so much good, should remain at variance through the mistaken pride of a few leading pharmacutists. That the Pharmaceutical Society is not popular, and is not the representative of the trade, is clearly shown by one of its own most honoured members, Mr. G. Edwards, who stated that, when applied to, there were not fifty chemists in the kingdom willing to join the Society when invited; and if during the past twelve months' agitation and efforts a dozen more have passed the major examination, it gives ample proof that the supply would never meet the demand if the agitation ceased. By their own showing, the outsiders are gradually becoming as learned as themselves; for 1,005 in all have passed the examinations (major and minor), but 848 only (420 members and 428 associates) continue to subscribe out of that number, or, as Mr. Humpage says, keep the bridge in repair which helped them over. So whilst in the Pharmaceutical Society there are 848 examined men, in the land of Goshen there are now 157 who refuse to pay paying rate, and have become ignorant in consequence. These men are outsiders, ex-pharmacutists, but, I suppose, as competent as of old.

Whatever contempt we may feel for the expressions of some of the elder members, the liberality and honesty of such men as Messrs. Vizier, Brady, Collins, Randall, Proctor, and others, quite make amends and allay irritation. These men should take a step in advance of their Council, and propose to meet some of the active outsiders; not officially, but as private individuals of both Societies, and I venture to believe, by thus exchanging sentiments, a satisfactory basis for arrangements between their respective Executives might be established.

Mr. Humpage thinks there is no chance for their bill, unless "some of the respectable outsiders come to their assistance." Is this likely, unless concessions are made to them? Will they surrender a bill which provides for their wants for one against them? If the help of respectable outsiders is needed, then let not this opportunity pass away. The Executive of the United Society cannot propose again; the private individual may. It is certain that each Society can offer great opposition and annoyance to the other. Much cash must be expended, and ill-will called up; but by mutual concessions all opposition might be put aside, and each Society, having its own purposes, need not encroach upon the duties of the other. Why not allow the Pharmaceutical to remain the college for chemists, and let the United Society register the members as tradesmen? The United Society is entrusted with funds to uphold individual rights, and will not be despised, and the Pharmaceutical Society cannot treat it with the contempt it has done of old. I venture to offer the assistance of several members to meet any of those gentlemen who desire to benefit and heal the divisions in the trade, and pave the way to an amicable arrangement. Any gentlemen disposed to entertain this proposition, will please to direct to the Office of the CHEMIST AND DRUGGIST, a letter to

AN OUTSIDER.

THE WHOLESALE DRUGGISTS AND THE UNITED SOCIETY.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

June 6, 1864.

SIR,—In your last number I find the United Society has published its first list of members who have subscribed to a fund for incorporating the trade, and to defend its privileges. I wish to call your attention, as well as that of the trade, to the fact, that in this list of between 600 and 700 names, not one wholesale druggist appears as a subscriber. In the defeat of the Medical Bill the wholesale trade is as much concerned as the retailers (non-pharmaceutical), and yet not one of this wealthy class has contributed a halfpenny to assist his customers in defeating a bill affecting their vital interests. They were asked at the time to join in the movement against this measure; but to this, as to every other request made by the United Society, they have turned a deaf ear.

The enclosed address was forwarded to them last year, and as the trade was not made aware of it at the time, I think they should now understand how the men they enrich act in return for favours conferred.

I believe you and every reader will admit, that the appeal made on behalf of the Benevolent Fund was just, reasonable, and calm; but it failed in its effect, not from want of force, but from the determination of the wholesale trade to withhold every support, either pecuniary or moral, from the United Society.

That Society determined then to treat the wholesale druggists with the same indifference it received from them. But the time is come when the trade should expect their assistance in a matter which concerns no party exclusively, but the trade generally. The incorporation of the trade has to be effected—the Medical Bill defeated, and for these purposes

funds are required. Are the retailers content to take the whole burden on themselves, or do they expect the wholesale firms to contribute a portion to the fund? It surely wants but the individual retailer to express his opinion to the several travellers calling for orders, to remind the wholesale druggists of their duties. Should they after that continue indifferent to the claims of their customers, it may be necessary for these customers to consider how they can best serve their own interests.

I am, Sir, yours truly,
L. S. D.

"The Executive Committee of the United Society of Chemists and Druggists, to the Wholesale Trade.

"GENTLEMEN,—The morning papers of April the 10th [1863] will have informed you that the Second Anniversary Festival of the United Society of Chemists and Druggists in aid of their Benevolent Fund, was held at the Freemasons' Tavern on the previous evening.

"In a few months we have aggregated our little contributions to a sum which proves our determination to help ourselves that we may deserve the help of others; but we regret to observe, that whilst tradesmen less interested in our prosperity have generously and liberally subscribed to our Benevolent Fund, many wholesale firms have stood aloof.

"The Committee feel assured that some mistake must prevail, or gentlemen, known to be both liberal and just, would not withhold their support from so good a cause. From our earliest existence the Council of the Pharmaceutical Society have been against us; and it is useless to ignore the fact that the wholesale houses have sympathized with that body, and have hastily adopted the imputation that we oppose the Pharmaceutical Society, simply because 'they say so.' Whatever antagonism exists between us, has emanated from the Council of that body; and we should long ago have expostulated with you against such an unreasonable prejudice, but we were apprehensive that we might be met with the reproach that our numbers were too insignificant to represent the trade; but now, that in the second year of our organized existence we number more members than the Pharmaceutical Society can muster after twenty-two years' effort, we feel justified in making this appeal; and in the name of the entire trade we claim your support.

"We have scrupulously abstained from bringing any organized pressure to bear upon your body, although we might, under the circumstances, have been justified in doing so: and whilst we shall ever honour those who helped us, even at the risk of some obloquy, when we most needed their help, we cannot acquit others of combining with the Council of the Pharmaceutical Society against us,—for if we could not have their co-operation, we had a right to their neutrality.

"We admit your right individually to sympathize with the Pharmaceutical Society; but, as wholesale druggists, deriving your support from the trade generally, are you justified in favouring the one and ignoring the other? Were we addressing you upon the ground of mere mercenary motive, we might readily show how much you err in setting at naught the feelings of the trade; but it is idle to remind you that your interest as merchants lies more in the retailer's annual account than in his chemical science; that one man's account—all things equal—is as good as another's, or that the whole trade furnishes you with more customers than the Pharmaceutical Society, when we may so much better appeal to the higher and nobler motives which reason, and justice, and humanity suggest.

"Our prospectus sets forth six carefully selected objects, framed with an anxious desire to express the wants of the trade without provoking the hostility of any existing body; and the total absence of argument against them, and of any attempt to point out some other machinery for carrying them into effect, is a silent, but emphatic, testimony in their favour.

"The Benevolent Fund for our necessitous poor is, however, our primary object; and for that we ask you for support. Had the Council of the Pharmaceutical Society have met the universal desire of the trade for a charity in the distribution of which, as members, they could take an interest, that Council would not now have to contemplate a compact organization of 2,000 chemists and druggists, representing the moral force of the trade in their determination to establish one for themselves.

"In illustration of our friendly disposition to the Pharmaceutical Society, it may be appropriately stated that from January, 1861, to July 1862, we observed towards them an uniform rule of complimentary or respectful mention, 'the Pharmaceutical Society' being amongst the toasts given at our first anniversary dinner; and we did not give up the hope of conciliating the Council of that body until we had originated the question of exemption from jury service for all dispensing chemists, when they availed themselves of the interest excited in the House of Commons by our petitions, to procure a clause practically excluding the trade from the privilege they sought for. But the most striking testimony to the goodness of our cause, and to the amicable spirit in which we have carried it out, lies in the fact that one-fourth of our members are members of the Pharmaceutical Society.

"We have an earnest desire to elevate the practice of pharmacy, and to secure for the public service a body of registered and educated practitioners, but we cannot too strongly condemn the idea of subjecting existing chemists to examination, as degrading and impracticable. They have fairly won their business, and they have a right as Englishmen to the benefit of it.

"The 25,000 chemists now in business cannot be elevated by examination; and it is equally demonstrative that the pharmaceutical machinery, which, according to a recent statement, only provides an increase of thirty examined members annually, is hopelessly inadequate to the regeneration of the trade. Why, then, should the trade be condemned for taking this all-important work upon themselves in discharge of the duty imposed upon them by the progress of the age, to provide a generation of competent chemists for the public service?

"We thus, as briefly as possible, but we trust temperately, lay our case before you, and we hopefully anticipate the result of your righteous judgment.

"Signed by order of the Executive Committee,
"Doctors' Commons, April 25, 1863. "C. F. BUOY, Secretary."

THE TWO SOCIETIES.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

May 7, 1864.

SIR,—By your kind permission, I was enabled last month to express a hope that the United Society would declare action against the proposed

legislation of the Pharmaceutical Council. My wish has since been gratified, and the intentions of the two societies are clearly defined. The Pharmaceutical has hauled up its true colours, and is determined to stand up for its own interests; and so it ought. The United is equally decided that the Pharmaceutical, in its endeavours to support its own, shall not trample upon the liberties of those who do not belong to it. This is as it should be. The Pharmaceutical is well adapted to raise scientific chemists; and all consistent minds should be willing to encourage it in this, as they should also oppose its meddling with the general chemist and druggist. We have no right to expect the title "Pharmaceutical Chemist" to be given to us. It would be dishonest to accept it, even were the Council unjust and weak enough to grant it. It would be a fraud on those who have been examined. If I held it by payment, I should look at it as a reproach to my integrity, and read on its surface "impostor." The majority of us do not require the assistance of the Pharmaceutical certificate to carry on our business; but there are some who may. Why, then, should the practical tradesman carp and growl, because these prepare themselves in chemistry, and obtain a scientific title?

These men are as necessary to the trade and country, in a commercial view, as for our honour. The "Pharmaceutical" is the institution for men such as Howard, Bell, Deane, Bullnek, Redwood, Squire, Braithwaite, Proctor, Reynolds, and many others, who are able to investigate and study pharmacy, and guide the trade. These men form the crown of our body. These are pharmaceutical chemists; and, I doubt not, the youthful members and associates will in time worthily occupy similar positions. Then why need we object to this? Shame upon the curious druggist who would grasp at such a distinction, without the education or talent to do honour to it. But while this position is given to them they must be content; and not, because they tread the higher walks of chemistry and pharmacy, try to domineer over their equally useful brethren, the plain chemists and druggists—the retailers of their genius and products. They must be satisfied with honour, and must forego power. The remuneration their intellect produces must be their reward; but if they depart from this, then it is equally our duty to raise an antagonism such as we now present. It must be distinctly understood, that as citizens all are equal, and entitled to the same commercial privileges; but if intellect places one above his fellows, and he gains a position, do honour to him—acknowledge him superior!

How is it with our clergy? At college they meet as equals. The competition, open to all, rewards few. Some cover themselves with honours and distinction. But in after years you as often find the University genius toiling in a bumble curacy with unaffected simplicity, healing the minds of the sorrowful, administering to the wants of the poor and sick, as though he were no better than his fellows. He does not blaze forth his intellectual title, or badge himself with college honours, as a reason why his preaching should be preferred, or a rich living bestowed upon him.

The pharmacutists are not yet what Dr. Edwards would have them,—“a compact phalanx of men who have no selfish interests to serve, but are anxious to do all the good they are able for the benefit of the body.” If even their Council consisted of such, there would be no cause for the declaration of war the United Society has justly issued against their proceedings. We, then, who are not pharmacutists, must act for ourselves. The Medical Council have stirred us up; and if we wish to continue on our old independent footing, we must act. The days of monopoly are gone for ever. Government will not sanction prohibitive measures. Yet for our own credit, a moderate examination should be required of all who in future enter the trade. The United Society has an excellent bill, which only wants the hearty support of the trade to become law. Without aiming at education, we require an active business-like Society to defend our rights. Then let us throw off the imaginary guardianship of the Pharmaceutical Society, to which we have no claim, and take into our own hands the management of our affairs, and the expenditure of our registration fees. A small subscription of five shillings per annum is all that is desired of us. There is no need to raise an angry feeling against any existing Society or section of the trade. The Pharmaceutical offers a superior title to those who care for it. So let it be. But let us unite into an organized body, and for the future neither medical, pharmaceutical, or any other body, will dare to interfere with our trade privileges. I urge all chemists and druggists to respect the true pharmacist; but before that, to respect themselves and their own interests.

ANTI-PHARMACEUTIST.

MR. B. S. PROCTOR ON PHARMACEUTICAL POLITICS.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

11, Grey-street, Newcastle-on-Tyne,
June, 1864.

SIR,—It has been with considerable pleasure that I have contributed to your pages, articles bearing upon the art or science of Pharmacy.

It is now with some hesitation and reluctance that I ask the use of your columns as a correspondent on the vexed question of Pharmaceutical politics.

I believe any one anxious to understand the whole matter, would easily obtain more information than it is possible for me to impart in a letter; but among your readers there are sure to be many who do not seek out the arguments which are elsewhere urged in opposition to those contained in your journal, yet are willing to read and to appreciate them if fairly laid before them. It is to these that I address myself; and though not wedded to conservatism, I hope to show that there is much justice in the doings of those who differ from us in policy, and those who are opposing the Pharmaceutical Society owe a measure of justice to the upholders of the *statu quo*. I feel it my duty to attempt this, from the conviction that we never so much show our own weakness, and damage our own cause, as when we do injustice to those from whom we differ.

I have always endeavoured in the Pharmaceutical Council to represent the interests of the outsiders, and have advocated the giving to them every privilege which we could in justice grant. In many of these points I have not stood alone; but the difficulties of those who were willing to do more than is now proposed, have been materially increased by the want of moderation which is attributed to the outsiders from the sample of them seen in your correspondence. I am happy to state from personal acquaintance, that there are many who are much more willing to support the propositions of the Pharmaceutical Society than we might have supposed from a simple inspection of your pages. I will first notice one of

two items in your April number, which I was disappointed at not finding explained or corrected in the next.

Your editorial article, page 56, says:—"It is further proposed, that after the 1st of January, 1865, none but pharmaceutical chemists shall commence business as dispensers of medicines." Supposing that your information was derived from the notes of the proposed bill, as read at the special meeting at Bloomsbury-square, and printed in the *Pharmaceutical Journal* for April, page 458, I am not surprised that you should fall into such error, though I am sorry you do not pointedly correct the mistake in your May number, when the publication of the bill itself, and information from other sources, had thrown more light upon the matter.

Turning next to the letter of "Vigil," who, from the name he assumes, and the position which he holds, might be expected to supply correct information, we find him (page 61) speaking of £20,000 as the sum which will be extracted from the pockets of outsiders at registration fees, and puts into the mouth of the Pharmaceutical Council, addressing the outsiders, the words, "Pay your annual guineas, and be quiet."

My belief is, that the number who may be required to pay the registration fee (not exceeding one guinea) cannot exceed 10,000, and may not exceed 5000. Redwood (*Ph. J.*, March, 1864) estimates the whole number of chemists and druggists in business on their own account in England and Wales at 6000. From the same statistics (*Census* of 1861) I estimate them somewhat higher. Thus, there are 16,000 engaged in the trade above ten years of age, of which 3,358 are under twenty years of age. Calling these latter apprentices, and estimating the assistants at an equal number, it leaves (16,000—6,776=) 9224 as the total number in business on their own account; from these subtract 2,000 pharmaceutical chemists, and we have 7,224 chemists and druggists who will be called upon to pay one guinea registration fee under the proposed Act. Redwood estimates the number of assistants as equal to the principals. I am inclined to think that will be nearer the truth, in supposing them equal to those engaged in the trade as apprentices or pupils under the age of twenty; but this is a point which we have not the means of deciding at present. It is, however, unequivocally a single payment of not more than one guinea which will serve for the whole life of the person registered. Surely this is not an extravagant demand as the price of a registration which is to secure that the privileges we now enjoy shall be undisturbed by legislative enactment, or other cause, during the remainder of our lives, and which registration will put us in a position to acquire new privileges when an opportunity offers? Had this registration existed before, it would, in all probability, have secured to the whole trade the benefit of the Juries bill; and if registration is now put in force, protection from inconveniences arising out of new prisons' bills or Excise regulations, will be among the benefits which will accrue to those who are on the register.

Your correspondent "Justice," at page 61, points out an omission which had also been noticed by several members present at the reading of the notes of the bill, and the omission was promptly supplied, as is seen by clause 5, providing for the registration of assistants.

At page 62, "Another Outsider" says that the "United Society alone conceived the jury exemption clause." He is probably not aware that seventeen years ago the Pharmaceutical Society advocated a juries' clause in the bill they then had under consideration; the clause providing that the pharmaceutical chemist and druggist "shall be exempt, if he shall so desire, from serving on all juries and inquests, and from serving on all corporate, parochial, ward, hundred, and township offices, and in the militia." (See *Ph. Journal*, vol. vi. p. 557.) And it is worthy of note that the bill, of which this was proposed to be made the 13th clause, provided for the incorporation of the whole trade under the title of Pharmaceutical Chemists and Druggists, without any expense or any examination, provided that it was certified by two justices of the peace that the person applying to be registered was in business as chemist and druggist in England or Wales at the time of the Act (see *Ph. Journ.* vol. vi. p. 514). I believe the Society did their utmost to get these desirable clauses carried, but they met with opposition and difficulties at every step. Piece by piece the valuable parts of the bill were erased, till it was looked upon by many of the traders as an abortion. Those who might have come in and influenced the progress of the trade, held aloof, and so added to the difficulties that were to be encountered and subtracted from the achievements which could be accomplished. A knowledge of the opposition which the bill met with in Parliament, of the jealousy with which the movement was watched by some of the medical profession, and the ultimate granting of only the privilege of a distinctive title which had its value to acquire, ought, I think, to have protected the Pharmaceutical Society and its Council from much that has been said against them.

In your May number, page 67, you publish the objections which the Executive Committee of the United Society have to the bill. They make their statement in eight paragraphs; I will notice some of them.

1st. I do not think they can justly say that the bill seeks to perpetuate an invidious distinction. The distinction has arisen from a combination of circumstances which the Council of the Pharmaceutical Society have from the first endeavoured to overcome, but which can only be overcome by the operation of a bill such as that proposed, aided by the lapse of time necessary for the passing away of one generation.

2nd. They say the Pharmaceutical Council "will govern all future interests," while refusing a voice to the unexamined. I cannot see what governance they are supposed to exercise over the interests of any unexamined, registered chemists, and can only express my conviction that they cannot exercise over them any authority whatever.

In reply to the 3rd, I may state that it is unnecessary that the bill should provide for local examinations, as our present bye-laws enable us to hold them wherever they may be required; and that the Council twelve months ago placed on the board of examiners a number of provincial gentlemen of known reputation, and have this year added to the number, with the view of providing ready means of holding local meetings of the English board, when a demand for such shall arise. Minor examinations held in the provinces scarcely can be called "expensive" or "prohibitory," or "unnecessary obstacles."

The 6th objection is against "the unnecessary interference of a medical practitioner, required in Schedule C." Your former correspondent, "Justice," points out the necessity of some means being taken to prevent any upstart putting a blue bottle in his window and calling himself chemist and druggist, just in time to be registered as such without any just claim to the title. The plan proposed to obviate this, by means of a certificate from a medical practitioner, appears a reasonable and an unobjectionable one.

7th. Regarding the benevolent fund. The bill does not seek to establish a benevolent fund. The fund already exists, and has increased to a large sum. But the old laws only allowed it to be applied to those connected with the Pharmaceutical Society, and the present bill liberates the Council from this restriction, the inconvenience of which they have often felt when desiring to give assistance to some deserving tradesman who was not a member of the Society. Had it been proposed to amalgamate the funds of the United Society with those of the Pharmaceutical Society, and to give the entire control to the Council of the latter, it might have been reasonably objected to; but as it stands, this clause surely cannot be reasonably opposed by any but members of the Pharmaceutical Society.

Your editorial article of May, page 74, quoting from, and commenting upon a letter which I addressed to the *Pharmaceutical Journal* of May, says, I unconsciously support the incorporation scheme of the United Society. I was arguing in favour of that policy which was unsuccessfully advocated fourteen years ago by Jacob Bell, and which I think might now be pursued with less opposition and better results. So far as the United Society work out Mr. Bell's ideas, they are likely to have not only my approbation, but that of many members of the Pharmaceutical Society.

At page 75 you say:—"The regulations respecting the registration of assistants are equally unjust, and will crush the hopes of many clever youths who have not yet attained the age of twenty-one." Surely no "clever youth" can have his hopes crushed by the prospect of a minor examination, at a cost of five guineas. As a member of the board of examiners I may say, that any youth with the most common-place abilities can pass the minor examination, if he has used his opportunities steadily, and not trusted that three months' grinding would do the work which ought to have been gradually progressing during his apprenticeship.

On the same page you repeat remarks similar to those of "Vigil," regarding the payment, the management, the benevolent fund, and local examinations; but what I have already said is probably enough upon these points.

I have commented freely, but I trust fairly, upon the statements of various of your contributors. I have not endeavoured to prove my position, but only to show, to those who are willing to see, that there is something to be said in justification of the proceedings of the Pharmaceutical Society and its Council.

It is not unlikely that my letter may be replied to, and that I may be expected to reply again. I am not desirous of carrying on a paper war with opponents who are pre-determined to arrive at only one conclusion, but I would not hesitate to answer, to the best of my ability, any courteous and temperate correspondent who might authenticate his communication with his name and address.

In conclusion, Mr. Editor, allow me to suggest that a sketch of the history of the Pharmaceutical Society, what it has attempted, what it has accomplished, and wherein it has failed, would be interesting and instructive to many of your readers if written by a neutral pen. I cannot say that yours or mine could lay claim to impartiality, but probably some such might be found.

I am, yours faithfully,

BARNARD S. PROCTOR.

SI SILENTIUM EGISSET "ALTERA PARS," SAPIENTIUS EGISSET.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

SIR,—Through your impartial liberality the "outsiders and non-pharmacutists" have now heard the other part. Judging from the clear, demonstrative, and convincing array of argument furnished by a "member of the Pharmaceutical Society by examination," we must allow that "to say the least of it," the examination to which he has been subjected, "is no trifling ordeal;" and seeing that he has attained to the distinction of a "true pharmaceutical chemist, a distinction which cannot be purchased with gold," we ought to give the most earnest heed to the words of wisdom which distil from his important pen. Surely "outsiders and non-pharmacutists" will now abandon the unreasonable expectation of purchasing such eminence at the trifling cost of a guinea registration fee, and at once dismiss from their minds the vain imagination that, because in the early stages of the Society's existence, members were admitted without examination, they may, at this advanced stage of its progress, be entitled on the same terms to equal advantages. Let them remember "that the fact of a certain number who were willing to pay for the privilege years ago of being admitted without an examination, is nothing to the point." The grievance is yearly becoming less and less, and will in the course of time be utterly extinct, and such specimens will be known to future generations only by their fossil remains. In the meantime what will become of the Pharmaceutical Society? Let Mr. Collins, one of the speakers at the special general meeting of the Society, answer this question. "It must be evident to all thinking men," says this gentleman, "that the Society must submit to extension or it could not progress, and Mr. Bottle some years ago made a calculation how long the Society would last on its present basis, and named the year, he did not recollect which, when the last man of the Society would pass into another world. It was certain that at one time they had something like 4,000 members, but they had dwindled down to about 2,100, bearing but a small proportion to the actual number of chemists and druggists now in business." Thus, about this grievance has become extinct the Society will be defunct. But these were remarks too painfully true for metropolitan ears, and, therefore, Mr. Squire rose to order.

Allow me a short space in your columns briefly to notice the masterly manner in which this "erudite pharmacutist," and no doubt "a gentleman withal," deals with the subject he undertakes to discuss. In the first place, he professes to discover in the obscurity and darkness of "those mistaken and ungenerous articles," which appeared in your April number, "coiled up in fancied invisibility, the green-eyed monster which makes the meat it feeds on," and like a good terrier dog he rushes down to the deepest and darkest recesses of this mental cavern, and has brought the beast to light, a feat to be accomplished only by a "member by examination of the Pharmaceutical Society." What a calamity to the United Society that he should withhold his opinion on "the best method of securing that consummation so devoutly to be wished," viz., its amalgamation with the older Society! It is to be hoped that some member of the Pharmaceutical Society by examination will supply this grand desideratum; for the present, your readers must be content with the amount of valuable information afforded in this remarkable article.

The United Society, I believe, entertains no feeling of jealousy towards any other society, nor does it envy any man the laurels he has fairly earned, nor the distinction he has bought and paid for; but having marked out a course of usefulness it is determined to pursue it,—if in amicable relation to the older Society, all the better; if not, it will still pursue it.

Your correspondent professes, in the next place, to treat his subject as a medical man would treat his patient, and assures us that, in order to remedy the evils from which the trade of pharmacy is suffering, it is of the utmost importance that a correct diagnosis of its malady should be made. I apprehend that a correct diagnosis of any existing disease can only be drawn from the symptoms which are manifested. The diagnostic indications from which this therapist arrives at his conclusion, are first "a certain pricking in some men's thumbs," and secondly all those unmistakable signs exhibited in the "poor man's cash book," a little work which has afforded him invaluable help, and no doubt after comparing it with his own he is satisfied that it treats the subject in a very truthful manner. From these two sources of information he has arrived at the moral certainty, that pharmacy is a very unenumerative trade, that it is so because it is overcrowded, and it is overcrowded because the terms of admission are so easy, and he also finds that it is afflicted with parasites in the form of grocery, drysaltory, and general dealing. This is his diagnosis.

Having by these infallible signs discovered the disease, he at once applies himself with laudable zeal to the task of prescribing a remedy which, in his opinion, will prove a perfect panacea for all the ills to which the trade is subject. "Legislate for compulsory examination, and return all grocery, drysaltory, and general dealing to their proper sphere." This is his remedy, and he intimates that the Pharmaceutical Society is the only physician to whom its administration ought to be entrusted, advising all chemists and druggists who have any "affectionate regard for sons or apprentices," to submit to the most humiliating process required, resting assured that "because the Pharmaceutical Society is working for the future, it must of necessity be working for the benefit of the whole trade."

Three-and-twenty-years this Society has existed, and its toil has resulted in very little profit. Many of its founders "have shuffled off this mortal coil," and bequeathed to their sons and apprentices an inheritance unimproved by their boasted labour. But the Pharmaceutical Society is now determined to accomplish something, which is to be worthy of its combined wisdom, and which is to meet the requirements of the whole trade; and such is the faith it reposes in the efficacy of its nostrum, that it intends to apply to Parliament for an extended Pharmacy Act, which will make it, as in the case of vaccination, compulsory on all parties to adopt it whether they approve of it or not. The remedy your correspondent prescribes is, accept the amended Pharmacy Bill, submit to be registered on any terms, pay your guinea and be content. "Then aspiring youths will look before they leap, and no longer persist in opening ten shops when the public only requires one." Let us inquire how far this remedy is commensurate with the disease. If I mistake not, the only prohibitory clause in the proposed amended Pharmacy Act is that which will prevent all unregistered chemists from compounding or dispensing physicians or surgeons' prescriptions, and will not, so far as I understand it, contribute to the removal of those maladies of which the writer complains. There may be, for aught that it enacts, ten or even twenty shops opened for the sale of drugs, where the public only requires one, providing the proprietors do not adopt the title of "dispensing chemist," and that no physician's or surgeon's prescriptions are compounded therein, and then there will arise the difficulty of determining what really constitutes a prescription; but no difficulty will arise in evading its operation altogether, and thus the unregistered chemist may continue to deal in drugs and medicines; and grocery, drysaltory, and general dealing will, unmoved by the terrors of this bill, occupy their present sphere in connexion with the trade of pharmacy. So much for the remedy proposed.

The United Society of Chemists and Druggists has been called into existence by the necessities of the times and the trade; and it has, certainly, during the three short years which have elapsed, done more to arouse the members of the trade, not excepting pharmaceutical chemists, to a sense of their need and to an earnest inquiry after the best means for improving their condition, than the older society has done in three-and-twenty years. It is now numerically stronger than its senior, and will on that ground be more entitled to legislative consideration. It has, certainly, whilst working for the present good of the trade, by no means ignored the future. It admits all members of the trade to equal rights and privileges. It has now a benevolent fund, which I have no doubt will enable it very shortly to enter upon an active course of charity, far exceeding its elder brother; and it has now, I trust, sufficient funds at command to justify it in making application at the bar of the House of Commons for an Act of Incorporation, the draft of which has commanded the approval of all the members of the trade to whom it has been submitted, and which must commend itself to the favourable consideration of the Legislature;—an Act which contemplates, as far as a due regard for existing rights will allow, the exclusion of all unqualified persons, and, for future aspirants, a compulsory examination, thus adopting the most effectual method of returning all grocery, drysaltory, and general dealing to their proper sphere. It contemplates the establishment of educational institutions capable of meeting the requirements of all futurity, and yet this "erudite pharmacist by examination" asks, in amazement, "Why is the future so utterly ignored by outsiders and non-pharmacutists? Have they no sons or apprentices in whose welfare they take an affectionate interest?" I answer, they have sons and apprentices in whose welfare they take an affectionate interest, and their chief solicitude is to secure for them and their posterity that heritage to which they have an indisputable title. In seeking to accomplish these objects, the United Society has asked no favour from the Pharmaceutical Society; it does not intend to solicit its patronage, and it gives expression to no budget of vain regrets. Mr. Abraham placed the subject in its proper light at the special general meeting, when he reminded his audience that they were not asked by the great body of chemists and druggists to do anything for them. "It would be time," said Mr. Abraham, "to ask for a bill authorizing the Society to register them when they called upon the Society to do so, but at the present time they might think the Society's proposed proceeding an impertinent interference." It is by chemists and druggists throughout the length and breadth of the land considered an impertinent interference. Mr. Savage has misrepresented the case in

his remarks at the recent anniversary, when he states that "they were first told by outsiders that they had no wish to be connected with the Society, and afterwards that they desired to be placed on an equality with the members, and to become equal participants in their rights and privileges." Let the case be fairly stated. The United Society has always expressed its disinclination to join the Pharmaceutical Society, and remains unchanged in this respect; but when it is evident that the Pharmaceutical Society is bent upon bringing the whole trade in some measure under its control, and is determined if possible to grasp the guinea registration fee, it very naturally becomes a subject for serious consideration on what terms the outsiders ought to submit to such a measure; and the United Society, finding it impossible to approach this august body for the purpose of conferring together on the subject, has very properly denounced the proceeding as unjust and oppressive, and calls upon the whole trade to unite in resisting this attempt to coerce them into an association in which they will not enjoy liberty, equality, and fraternity. It is not to be expected that the large majority of the trade will quietly submit to pay to this fractional part of its own body the sum of one guinea to secure its most gracious permission to conduct business, as many of them have conducted it before the Pharmaceutical Society was born. The United Society is content to stand on its own merits, and will adopt from time to time such measures as circumstances may demand, and is fully prepared to bear its own burden. I am glad to see such an extensive subscription list published in the last month's CHEMIST AND DRUGGIST, and I trust that from every town throughout the kingdom contributions will continue to flow, until the committee will find that they are amply supplied with the "sinews of war." On the subject of counter practice my views have been laid before your readers, and they remain unaltered by the remarks of your correspondent. I perfectly agree with him that the public are as safe in the hands of the careful and experienced dispenser as in those of the most erudite pharmacist; and I am persuaded, that what is required for the safety of the public is not so much that high class examination at present imposed upon those who wish to write M.P.S. after their names, as the restriction of the sale and compounding of medicines to those who are carefully educated and experienced dispensers. Nothing would contribute more to the convalescence of the trade than a legislative measure by which all mere hucksters and chandlers would be prevented from dealing in drugs. In the meantime, it is to be hoped that the careful dispenser will not refuse to prescribe for such cases as come within the range of his abilities; and as to the legality of such a course, your able articles, and the opinion of counsel contained in your October, November, and December numbers for 1861, together with the exposition of the law by Mr. Justice Williams in the recent charge of manslaughter, are conclusive and satisfactory.—I remain, Sir, your obedient servant,

PHILALETHES.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

Westminster, May 18, 1864.

SIR,—The impartial character of your journal is exemplified by the lengthy epistle of "W. W.," in defence of the Pharmaceutical Society, which appears in this month's number. "*Audi alteram partem*" reminds me of an elaborate and ornate vessel without a bottom; and whilst I appreciate the intention of the writer to defend his own society, I must confess that the "other part" seems to consist only of some imaginary conclusions, or such imputations as have long been well considered and decided by those who oppose the Pharmaceutical Council. Had "W. W." undertaken to defend the Council, previous to the agitation by the United Society, he would have found greater difficulty than in showing how the Council was endeavouring to benefit the whole trade by legislating for the future. As one of your correspondents, I must admit I have failed to perceive in what manner the Council has hitherto been acting for the benefit of the whole trade. I could not detect any friendliness towards the general trade in the action of the Council, when, instead of assisting to exempt all from jury service, it put us aside to advance its own members. Again, when the Medical Council proposed to shut up every shop, non-pharmaceutical, and the Pharmaceutical Council approved the scheme, I could not perceive how the latter body was working to advance the interest of all. I may live to see these things in a different light, and, perhaps, some day may comprehend how we should have been benefited if the sale of poisons had been entrusted to pharmacutists only.

It was for want of some such exponent as "W. W." before 1861, that the United Society sprang into existence, and then its founders had so thoroughly inquired into the doings of the Pharmaceutical Council, as to establish a conviction that the one existing society was not sufficient, and that its management was not satisfactory. They saw the danger in the future which the trade through them has just narrowly escaped, and their motives are now put down as akin to jealousy, when really the only motive was a justifiable desire to secure efficient organization for self-defence against a minority in power, who were obtaining unfair advantages over their brethren. If there is any jealousy, it exists on the part of the Pharmaceutical Society more than with us. One of the principal objects of the United Society was the formation of a Benevolent Fund for those who, in old age, had no claim upon that of the Pharmaceutical. It declared itself in no way opposed to the Pharmaceutical Society, but, having objects of its own, would be quite willing to assist it by co-operation; and yet from the first up to the present time its greatest opponent has been the Pharmaceutical Society. And for what reason? Jealousy only; and the "meat" of the "green-eyed monster" was the foreseen power of the United Society against its exclusive privileges. The United Society always desired the goodwill of the other; and when refusal after refusal of its offers came back, we experienced the same sort of pity that might be felt by a vigorous young man on finding his good intentions utterly misunderstood by an obstinate, wrong-headed old one. Jealousy has no part in our onery, but our object is,—the defence of our established rights. The sluggish "ulcer which never heals," does not exist because "a few pharmacutists have passed no examination," and are receiving equal advantages with the others, "but because a few only have passed, and the majority have not," but are placed "in a false light both as regards the trade and the public."

If "many chemists aspire to the title of pharmacutist by payment," they will sail under the same "false colours" as the 1680 men who now enjoy that privilege, and their light will be quite as genuine as that of those who perhaps had more money than courage or brains, and who

supported the society at first, and have since been propped up more by this false distinction than by personal merit.

"W. W." denies that this distinction can "be purchased with gold." How is it, then, that those members before 1853, who by discontinuing their payment have since become disconnected with the society, are now invited to pay up arrears, and resume their educational title? How is it, that various sums, from as much as £17 and under, have been given to recover the distinction? Are these men more entitled to the honour than those who never paid at all? And yet this is being done, but not for the title only, but for the monopoly selfish minds are looking forward to; but which happily, however, is yet a long way off, as the public, who are concerned in this matter, will not be influenced by titles such as M.D., L.A.C., or M.P.S., and are very perverse and "excessively provoking."

"W. W." seems to doubt the wisdom of incorporating the whole trade into "one ostensible recognised and independent body," yet this was the chief aim of the founder of the Pharmaceutical Society. Is it to be devoutly wished for? Then, if so, the only way to effect it is to admit every man on equal terms, with equal privileges; then, with the government in our own hands, and the present provided for, we shall be able to think of the future, and the United Society will no longer be wanted.

The United Society is the means to an end. It is to preserve the rights of the trade, and not to become a stumbling-block to utility; but its self-sacrifice will not be effected until its object is fully accomplished. Should it remain a permanent institution, the Pharmaceutical Council, by its arrogance and pride, by its un-"pardonable weakness," will have effected this result to its own injury. As at present set forth, I see no reason for its immolation, because its incorporation scheme is far superior to the Amended Pharmacy Act of the Pharmaceutical Society, inasmuch as it is liberal and practical, whilst the latter is prohibitory, opposed to the public weal, and advantageous only to a section of a trade class. Before such a measure as the proposed new Pharmacy Act the United Society could not "consistently retire," nor can it give to it any support; for, until the broad base of perfect equality is proposed, there will remain a feeling abroad that the Council is not "acting against the United Society" only, but against every one who does not contribute one guinea to its funds.

The reason why the suicide of the United Society is suggested is, because "it has yet to be shown that the trade will be one iota the worse off by the passing of the Pharmacy Act," which is to place the Pharmaceutical Society "on the best possible footing." The guinea for registration even "W. W." admits "looks suspicious." If we ask why we are "to pay our guinea," the answer is, "for the advancement of pharmacy for its own sake;" but it appears to me that the registered chemists are asked to pay their guineas for the sake of the *pharmacologists*.

This kind of pleading does little credit to the pharmaceutical advocate. We want to be convinced, not merely that the trade will be uninjured by the passing of the Act, but that it will be benefited. We need not be reminded of the Council's *finesse* to increase the wealth of the society, whilst so many members of the trade find their tills nearly empty, in order that when the New Zealander arrives in London, there may be a competent pharmacist to prepare the medicine required to compose his stomach after his long sea-voyage.

I have no doubt "W. W." is successful enough with his counter practice, but I very much doubt the correctness of his diagnosis in the malady of the trade and the efficacy of the remedy prescribed. "W. W." thinks "the trade is over-crowded because it is considered genteel and clean, and easily entered;" and in order to remedy this, he prescribes "a high class examination and the quiet resignation of all dealings in grocery and general articles." He thinks this is severe—but "the trade demands it." "Is it unjust?" He replies, "The future will justify it." O splendid hallucination! Can this be realized? What about that provoking public, who have supported the chemist in consequence of the high prices of M.R. C.S., and L.A.C., and prevented medical legislation, to the chemists' injury? How will "aspiring youths" comport themselves when selling pennyworths of Epsom salts, and halfpennyworths of hair oil? How will their dignity allow them to make and sell six pills for a penny? Are prices to be raised accordingly? Or are prescriptions only to be the order of the day? What say the public to this? Is an assistant's life to become so attractive that he will prefer servitude to the freedom of his own counter? And will salaries so increase that, once a year, a surplus will enable him, like others, to enjoy a holiday? If, by the means proposed by "W. W.," the trade is to become remunerative, will there not be an inducement to many who would now go up to the Hall for a diploma, to be content with that of Bloomsbury? For it requires only to show a remunerative occupation to have it glutted, even though the "orden" should be as severe as that of the pharmaceutical examination. We undoubtedly "want gentlemen," but they must not be above their work. All cannot have first-class dispensing shops, any more than every L.A.C. can ride in his brougham or sport a carriage and pair. There must be men willing and able to supply the wants of the poor, and able to rescue the obstinate public from quacks, herbalists, and their own fancies. A poor gentleman is a brighter vision than a rich one in many districts. Centralization, few masters, and many assistants, to me does not seem an end to be aimed at, nor likely to add to the welfare of the community.

It is not unreasonable "at this stage of the Society's progress," to expect to be admitted as equal to those who have passed no examination. It is not "strange" that on finding, after twenty years' existence, only 420 examined members in your Society, we should say, your ideal does not meet the requirements of the age, however cutting it may appear to trade selfishness. It does not follow, that because a man "has been at the trouble and expense of attending lectures and so forth," that the public will realize his expectation to be remunerated, if he is only a theorist, and "not so good a man of business as the unexamined" tradesman close by.

Supposing the new Pharmacy Act to be acceptable, is the Council, as at present constituted, equally so? I think not. The United Society considered it due to the older Society to make the first advance, and by so doing raised its position; and in refusing the offer, the Council has exhibited an unwillingness to lead the trade, by descending to such measures as such as "justifiable pride" and "weakness," in spite of reason and approval. It is pitiable to witness the proceedings which for the past nine months it has been forced to adopt. And now it "appeals to the trade" for assistance. Why, the trade offered assistance through the United

Society, and was refused. Outsiders have not the same confidence that their registration fees will be used to their advantage as "W. W." has, and they look upon the remedy as altogether a fallacy—as opposed to the legislation of the present day; and not until it is proposed that all shall be placed on a level, with a vote in the distribution of their funds, will they believe in any good coming from Bloomsbury-square. The United Society can waste no more time in thinking, but will pursue its opposition. So "each Society must stand on its own merits." And if the members of the trade will judge for themselves, they must see that by supporting the Executive of the United Society, they will obtain all that is consistent and desirable.

I am, Sir, your obedient Servant,
J. W.,
Member of the United Society.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

Bristol, May 30, 1864.

SIR,—I am very happy to find that, in consequence of your courteous invitation, one of the members of the Pharmaceutical Society has been induced to come forward and become a public exponent in your journal of the views and intentions of that body. I beg leave to be allowed space for a few words in reply.

Your correspondent commences with a long statement to prove the present overcrowded state of the trade of chemist and druggist, from which he deduces some strange conclusions. I think he has given himself needless trouble in this respect. Few will be disposed to deny that the trade is to a certain extent overcrowded, though the same objection will, I believe, apply to nearly every other existing trade in this country, and the public are to a great extent the gainers thereby. Such a fact will not prove the justification of arbitrary legislation, and will, there is little doubt, be completely remedied by the provisions of the proposed Act of the United Society of Chemists and Druggists.

Your correspondent proceeds to make a heavy charge of ingratitude against the writers in your journal representing the outsiders, who, he says, "fail to perceive in what manner the Council of the Pharmaceutical Society are working for the benefit of the whole of the trade." Ingratitude is a crime of deep dye, and the charge a heavy one. Disinterested exertions for the sake of others generally involve some sacrifice on the part of their performer. How strange that those of the Pharmaceutical Society, though of course made only for the sake of the whole trade, should result so happily in the aggrandizement of its own members, and the debasement of the great body of those for whose benefit they were professedly intended? Truly virtue has its own reward. Let us, if you please, examine the nature of these exertions. It is proposed by the Pharmaceutical Society to bring in a bill enacting that the whole trade, shall be immediately placed under sole and irresponsible government of a very small portion of it, viz., the Pharmaceutical Society, represented by its Council; that the present chemists and druggists are to have no voice in the making of the laws by which they are governed, but are to be reduced to the condition of unrepresented slaves of that favoured class the Pharmaceutical Society; that lest by any chance they should aspire to an equality with their proposed masters, they are not even to be allowed to call themselves members of this Society, but to be deprived of the ordinary status belonging to the trade, and assume the servile badge of "Registered Chemists" (or chemists by sufferance, allowed to die out until their place can be supplied by members of the legitimate society); and lastly, as an appropriate *finale*, that they are each to contribute one guinea for the support of the objects of their lordly masters. Oh, glorious disinterestedness! Oh, ungrateful outsiders! Can you not appreciate the pure motives of the Pharmaceutical Chemists, who, in regard to your requirements as an inferior race, are willing to accept you as their bond-slaves for ever, and to ride upon your necks, knowing that freedom is not good for you! How touchingly does the correspondent in question reproach us in his own persuasive tones for our unkindness, that we do not voluntarily offer our limbs for the shackles, and refuse to hear "the voice of the charmer, charm he never so wisely!" Sir, my blood boils when I read of such insolent and arrogant presumption. Does your correspondent believe that the members of the trade are all fools? Does he think that they will be imposed upon by the absurd pretence, that in submitting to such degradation and imposition they are doing so for their own benefit? Does he suppose that gentlemen who have conducted business with honour to themselves and advantage to the public for twenty or thirty years, will submit to cram for an examination like mere yobs, or accept the alternative of having a stigma of degradation affixed to them, and of living only by the sufferance of a set of men who possess as a body no proved qualification whatever, and who, in a lent presumption at obtaining their charter of incorporation induces them to attempt to make tributary slaves of the rest of the trade.

Although it is difficult to reason calmly on a claim so impudently unjust, as that of a very small minority of a trade claiming to have the entire and unlimited control of the whole of that trade, not allowing the great majority of its present members any voice by representation in the management of their own affairs, but only the honour of being taxed and enslaved by the aspiring few, yet it is easy to see the practical working of this. Where all are competitors in trade, it would immediately become the interest of the governing minority, by every invidious distinction in favour of their own members and every hardship imposed upon outsiders, to drive the latter from the field, and thus throw all business into the hands of the former. The Pharmaceutical Council has shown that it would be deterred by no scruple of conscience from such a course. Instance the proposed degrading title of "Registered Chemists" assigned to the trade. Instance the arrogant proposal that the many should be placed under the irresponsible government of the few, and that the trade are to be taxed for the benefit of a society of which they are not even allowed to be nominal members. The above indications are but a fair earnest of those to come, when the Pharmaceutical Council has all power placed in its hands, and its unfortunate victims, the outsiders, no power of helping themselves.

One single argument will show the injustice of the pretences of the Pharmaceutical Society, if the trade be but true to itself. The present members of the trade, when they entered into business, fulfilled at the time of doing so every legal requirement, and have therefore a right while

they live to the highest standing in the profession; and in accordance with the whole spirit of our laws (which are all prospective in their operation, as shown in the Apothecaries' Act), no future legislation can degrade them for the sake of subsequent members of it, upon whom the laws may think proper to impose additional requirements.

Your correspondent goes on to remark, that the trade feel an unworthy jealousy because a few unexamined members are to be allowed a title which properly belongs to the great body of examined members. This is a statement entirely at variance with fact. The great body of the members of the Pharmaceutical Society, according to their own report, are *unexamined*, and possess no ascertained qualification whatever. The number of the examined, as admitted by the Society in the year 1863, was 362, out of a total number of 2048 members. Consequently, the unexamined bear to the examined about the proportion of 17 to 3. This, it will be acknowledged, is a pretty good *few*. The large body are therefore *unexamined*, and thus constituting the great and influential majority of the Society, we may fairly assume that it is at their instance that the present degrading measure is to be proposed.

And now one word in reply to the assertion, that the general trade desire to deck themselves in borrowed plumes, because they are reluctant to accept the badge of inferiority proposed to them of becoming merely "registered chemists," while the large number of unexamined flaunt in the gay title of "Pharmaceutical Chemists." I cast back the imputation with the scorn it deserves. We desire no connexion, by name or otherwise, with the Pharmaceutical Society. It is their members who desire to deck themselves in borrowed plumes, and who have the name of "Pharmaceutical Chemist" emblazoned in their windows and over their doors, to endeavour to persuade the public that they possess a higher ascertained qualification than the general trade. It is vain to deny that such title must have weight with the public, whether they understand its precise meaning or not; and that when the lives of their relatives are at stake, they will give a preference to those who exhibit a claim to the highest qualification. What we do desire is not to be deprived of our original status. And what we assert is this: that if the Pharmaceutical Council possessed any sense of honour and justice, it would have proposed a fair measure of amalgamation of the whole trade; and as the latter were to be heavily taxed, have placed each member of it in its bill in every respect on an equality with those pharmacists possessing no higher qualification. But away with such impudent pretension! The Pharmaceutical Society has declared both its dishonesty and injustice. Let us then be true to ourselves, and hold no terms and submit to no connexion with it for the future, or else we will have these fetters and this badge imposed upon us. Let us he up and be doing. The way is now clear for our own bill with its just and fair provisions; and as it is far easier to attack than to defend, let us lose no time in bringing this forward at the earliest period in the next session of Parliament, which could not refuse us our reasonable requirements respecting present rights, and our guarantee, by our proposed examination, that future members of the trade shall, on entering it, give proof of their qualification. If we delay, Parliament may very likely be imposed upon by the specious pretences of the Pharmaceutical Chemists, and make us their bond-slaves for ever.

It is worthy of remark, that the guarantee proposed to the public by the United Society is quite different in its nature from that proposed by the Pharmaceutical Society, and, according to the confession of your correspondent, quite different in its object. The United Society proposes a fair examination to future candidates for admission into the trade on every subject properly appertaining to the business of chemist and druggist, for the object of securing the safety of the public. The Pharmaceutical Society proposes to institute a high scientific examination for future members of the trade on subjects quite foreign to the business of a retail chemist, in order, for its own purposes, to create a monopoly at the expense of the public. According to your correspondent's own showing, the trade is to be reduced to a very select few. An unholy alliance is to be formed between medical men and pharmaceutical chemists. Instead of the poor being able to obtain, as at present, a cheap and timely remedy to cut short disease before it has thoroughly mastered the system, the chemist is to make it his duty, as your correspondent asserts, to overcome the scruples of the public in applying to medical men, and to enjoy in return the greater profit of making up their prescriptions. When the trade is confined to a very few who play into each other's hands, it is easy to see how easily this could be managed. Now the public have no prejudice against applying to medical men, but rather the contrary, but in many instances have not the means to do so without making themselves paupers and applying to the parish doctor; and in numerous others would neglect doing so on account of the inconvenient expense till too late, if their present cheap and timely remedies were taken from them, and I believe many lives would be lost in consequence.

It is quite clear, therefore, that the proposed bill of the Pharmaceutical Society would be injurious to the public, as well as degrading and unjust to a large and respectable body of tradesmen. Let us remember that at present every member of the trade possesses the same legal status as each member of the would-be aristocratic society. The law has not yet made this society the portal by which entrance only is to be obtained to the trade of chemist and druggist, but merely, on its application, given it a charter of incorporation to recognise it in the same manner as any other corporate body of scientific pretension. Legislation, according to all our law writers, is prospective in its operation; and, if the trade show common energy in their own defence, dare not deprive them of that *highest legal status* which they possessed before ever the Pharmaceutical Society was thought of. It is quite certain, however, that some measure affording proper protection to the public will be speedily introduced into Parliament. If we are wise, it will be our own; and that, backed with our best energies, our members in each town influencing their parliamentary representatives, and contributing liberally to defray the necessary expenses. No other result can be looked for from those whose energy has already stilled in the birth the proposed bill of the Medical Council, which was entitled to some consideration from Parliament.

In opposition to the views of your correspondent, I am of opinion that, when our Society has obtained its Act, and the Pharmaceutical Chemists, frustrated in their attempt to aggrandize themselves at the expense of their neighbours, are compelled to depend for support upon their own exertions, their Society is likely quickly to be merged in one constituted upon the broader and more enduring basis of fairly representing the general interests of the trade. It is to be hoped that we may propose to them more merciful terms than they offered to us, especially

when they have learned by experience the truth of the proverb, "Pride goeth before destruction, and a haughty spirit before a fall."—I am, Sir, yours respectfully,
A LOVER OF FAIR PLAY.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

Hawick.

SIR,—I was highly amused while perusing the letter of "Chemicus" to the *Birmingham Daily Post*, reprinted in your April number. Surely there must be some deficiency in "Chemicus's" knowledge of the status of pharmaceutical chemists in general, when he thus openly brands the druggists without the pale of the Pharmaceutical Society as "a class who deal in tallow candles, drapery goods, &c., and entrust their business to boys, who can scarcely distinguish rhubarb from opium, and whose ignorance oftentimes result so fatally." Now, Sir, this is a most unjust assertion, and calculated to mislead the public; yet, according to "Chemicus," the Pharmaceutical Society rectifies all this, and advocates higher principles."

I know a *pharmaceutical chemist*, not one hundred miles from London, who does an extensive prescribing business; and should his ignorant customers express a doubt as to his ability to treat their particular cases, it is not unusual for him to point to his pharmaceutical certificate of membership (one of those that were sold during the Pharmaceutical Society's infancy) as a proof of his competency to treat any case that might come under his notice.

Again, with respect to "Chemicus's" abhorrence of the medley to be seen in many shops, especially those of the members of the *United Society*, I think he might have spared his time and pen in such unjust remarks—unjust, because they are applicable to pharmaceutical members as well as those of the *United Society*. Should "Chemicus" ever come to Edinburgh, I can direct him to a *pharmaceutical chemist's* shop, within easy walking distance from the city, where he (if he has any children) may purchase a penny doll, or, if religiously inclined, a prayer-book, and, if a sporting man, the latest news of the fight. But for all this, Sir, I do not condemn the principles of the Pharmaceutical Society; it undoubtedly aims at a better state than this, and has done for years, but has it made the progress that might have been expected, and does this Society represent the druggists as a class? I fear not. If "Chemicus" is not acquainted with the rules and object of the *United Society*, he might be; and when he again attempts to enlighten the Birmingham public, through the medium of the *Daily Post*, it would be more to his honour as a pharmaceutical chemist, were he to deal honestly and truthfully with his subject. There are others besides pharmaceutical chemists who are labouring for the elevation and welfare of our business, and who appreciate the power of knowledge quite as much as "Chemicus" can. "Chemicus" boasts of the high principles advocated by pharmaceutical chemists, and the encouragement given by them to old and young to join their ranks. There are a few, Sir, but I believe the majority do not; and, in my opinion, this is the great secret why their numbers are so few. I have had some little experience of counter life with pharmaceutical chemists, and have invariably found it, with but one or two exceptions, a continued harass from hed to shop and from shop to hed, without encouragement for either study or recreation; and this I am certain hundreds of half-paid assistants can certify.

It is not uncommon for those chemists of such high principle and moral worth to offer a young man 5s. per week, board and lodging, for his services behind their counter from eight o'clock A.M. to ten o'clock P.M. So much for the boasted time to study *Materia Medica*, chemistry, &c.

What has "Chemicus" to say respecting the melancholy poisoning case that occurred in Liverpool on the 11th of April? Was the prescription prepared amidst the tallow candles and groceries that he alludes to in his letter, or in the model laboratory of a *pharmaceutical chemist*? But why say more? Probably "Chemicus" was labouring under the effects of an overdose of the "*Pharmaceutical Wind Pills*" that we see advertised every day, and on this account we may make some allowance for his startling revelations.—I am, Sir, yours truly,

VERITAS.



The market for chemicals has been rather quiet during the past month, and prices close somewhat lower. Only a small business has been done in Tartaric Acid, at 1s. 7½d. to 1s. 8d., closing at the former price; Citric is now dull, at 1s. 8½d. to 1s. 8¾d. Only small sales made in Oxalic, at 10½d. Bichromate remains quiet, at 7½d. Prussiate of Potass continues dull, at 11½d. to 11¾d. A fair business done in Sal Acetos, at 12½d. to 13d., closing at 12½d. Chlorate of Potass is quiet, at 14d. Iodine is nominal, so little business doing; seconds, 6¾d., and firsts, 7½d. Quinine is lower; a good business done in Pelliters, at 5s. 10d.; English is quiet, at 6s. 4d. to 6s. 6d. Sulphate of Copper is dull and lower, the price is now 31s. to 31s. 6d. Soda Crystals quiet, at 97s. 6d.; and Ash, 2½d. to 2½d. Sal Ammoniac remains quiet, at 36s. to 37s. 6d., according to quality. Bleaching Powder is quiet, at 14s. to 15s. More doing in Sulphate of Ammonia, at 14s. to 15s. Flour of Brimstone is quiet, at 12s. 3d. to 13s. 3d.; Rough, £7 10s. to £7 15s. Cream of Tartar is rather lower, 115s. to

117s. 6d. Refined Saltpetre is again lower, last sales made at 37s. 6d. to 38s. cash f. o. b. Linseed Oil is less in demand, at rather lower prices; spot and month, 38s. 9d. to 39s. Rape is firm; Brown sold at 42s. 6d. to 43s.; and refined, 45s. 6d. to 46s. Turpentine is again lower and dull, last sales at 70s. 6d. to 71s. Petroleum is also less in demand, and closes dull, at 2s. 2d. spot, and 2s. 4d. last four months; and Crude, £19 10s., sellers. Ashes are dull.

The public sales of Drugs have been small, and with the exception of a few articles, prices are without change. Some East India Arabic brought higher prices; good Arabic, 78s. to 83s.; and Brown, 57s. to 61s. Olibanum is 5s. to 8s. dearer; good fair and good pale, 86s. to 91s. China Camphor is lower; small sales made at 97s. 6d. Russian Rhubarb sold steadily; round and flat, 9s. 11d. to 11s. 4d. Barbadoes Aloes sold at higher prices for the best kinds. Ipecacuanha is rather better; sales, 8s. 2d. to 8s. 3d. Galls are held for much higher prices. Tonquin Musk sold at steady prices, 24s. to 34s.; and Pickings, 20s. 6d. to 23s. No change in Barks. Sarsaparilla sold steadily at late prices. Oil of Alseid is quiet, at 6s. 8d. to 6s. 9d. About 100 cs. Cassia to arrive, sold at 9s. Citronelle steady, at 5½d. to 5¾d. Gum Kowric, 3s. to 5s. lower again. Cardamoms are without change. Gambier is dearer; Block, 26s. to 26s. 6d.; and Cubes, 30s. Cutch is quiet. A fair business has been done in Castor Oil at steady prices. Safflower is rather dearer, but quiet. Japan Wax is lower; West India Bees' Wax is steady. Other goods no change.

PRICE CURRENT.

These quotations are the latest for ACTUAL SALES in Mincing Lane. It will be necessary for our retail subscribers to bear in mind that they cannot, as a rule, purchase at the prices quoted, inasmuch as these are the CASH PRICES IN BULK. They will, however, be able to form a tolerably correct idea of what they ought to pay.

	1864. s. d.	1864. s. d.	1863. s. d.	1863. s. d.
ARGOL, Cape, per cwt.	87 6	105 0	85 0	102 6
French	00 0	84 0	40 0	60 0
Oporto, red	46 0	43 0	45 0	48 0
Sicily	74 0	77 0	70 0	78 0
Naples, white	05 0	80 0	65 0	80 0
Florence, white	87 6	95 0	90 0	97 6
red	80 0	85 0	80 0	85 0
Bologna, white	90 0	95 0	110 0	115 0
ARROWROOT. (duty 4½ per cwt.)				
Bermuda, per lb.	1 4	1 0	1 8	2 2
St. Vincent	0 4½	0 8	0 5	0 8½
Jamaica	0 4	0 6	0 4½	0 6
Other West India	0 3	0 4½	0 4	0 4½
Brazil	0 2	0 3	0 3	0 4
East India	0 3½	0 6	0 2½	0 4
Natal	0 5½	0 10	0 5½	0 10
Sierra Leone	0 4	0 5½	0 4	0 5
ASHES, per cwt.				
Pot, Canada, 1st sort	34 0	34 6	32 6	0 0
Pearl, ditto, 1st sort	35 0	0 0	32 6	0 0
BRIMSTONE,				
rough, per ton	170 0	180 0	127 6	130 0
roll	215 0	220 0	180 0	190 0
flour	215 0	250 0	220 0	225 0
CHEMICALS,				
Acid—Acetic, per lb.	0 4	0 0	0 3½	0 0
Citric	1 8½	1 8½	1 6	0 0
Nitric	0 5	0 5½	0 4	0 5½
Oxalic	0 10½	1 0	0 8	0 8½
Sulphuric	0 0½	0 0	0 0½	0 0
Tartaric crystal	1 7½	1 8	1 0	0 0
powdered	1 8	1 8½	1 0½	1 7
Alum	122 6	135 0	130 0	140 0
powder	145 0	150 0	150 0	160 0
Ammonia, Carbonate, per lb.	0 5½	0 6	0 5	0 0
Sulphate	260 0	280 0	289 0	300 0
Antimony, ore	200 0	210 0	200 0	280 0
crude	26 0	0 0	22 0	23 0
regulus	36 0	37 0	41 0	0 0
French star	36 0	37 0	42 0	0 0
Arsenic, lump	15 0	15 6	16 0	0 0
powder	9 0	0 3	6 0	7 0
Bleaching powder	14 0	15 0	9 6	10 0
Borax, East India refined	0 0	0 0	52 6	53 0
British	58 0	0 0	56 0	0 0
Calomel	2 11	0 0	0 0	2 7
Camphor, refined	1 5	0 0	1 10	2 0
Copperas, green	52 0	55 0	57 6	60 0
Corrosive Sublimate, per lb.	2 3	0 0	1 11	0 0
Green Emerald	0 0	0 0	0 0	0 0
Brunswick, per cwt.	0 0	0 0	0 0	0 0

	1864. s. d.	1864. s. d.	1863. s. d.	1863. s. d.
CHEMICALS.				
Iodine, dry	0 6½	0 7½	0 3½	0 3½
Magnesia, Carbon	42 6	45 0	42 6	45 0
Calcined, per lb.	1 6	1 8	1 2	1 8
Minium, red	21 0	21 6	22 0	22 6
orange	32 6	33 0	32 0	33 0
Potash, Bichromate	0 7½	0 0	0 8½	0 9
Chlorate	1 2	0 0	0 11½	1 0½
Hydriodate, per oz.	0 6	0 6½	0 4½	0 5
Prussiate, per lb.	0 11½	0 11½	0 11½	0 0
red	1 10	1 11	1 11	0 0
Precipitate, red	3 0	0 0	2 9	0 0
white	3 0	0 0	2 9	2 10
Prussian Blue	1 0	1 10	1 0	1 10
Roso Pink	29 0	0 0	29 0	0 0
Sal-Acetos	1 0½	0 0	0 10½	0 10½
Sal-Ammoniac				
British	36 0	37 6	35 0	37 0
Salts, Epsom	8 0	8 6	8 0	0 0
Glauber	5 0	5 6	3 0	5 6
Soda, Ash	0 2½	0 2½	0 2	0 2½
Bicarbonate, per cwt.	12 0	12 6	12 6	18 0
Crystals	0 0	97 6	97 0	0 0
Sugar Lead, white	33 0	39 0	37 0	0 0
brown	23 0	29 0	25 0	0 0
Sulphate Quinine				
British, in bottle	0 3	6 0	6 6	0 0
Foreign	5 10	6 0	6 3	0 0
Sulphate Zinc	14 6	15 0	14 6	15 0
Verdigris	0 11	1 0	1 1	1 3
Vermilion, English	2 8	3 0	2 8	3 0
China	2 9	2 10	2 2	2 4
Vitriol, blue or Rom.	31 0	32 0	30 0	31 0
COCHINEAL, per lb.				
Honduras, black	3 3	4 7	2 6	4 7
silver	2 6	3 7	1 4	3 4
Mexican, black	3 5	3 9	2 7	3 0
silver	3 2	3 4	2 6	2 7
Lima	0 0	0 0	2 7	3 2
Teneriffe, black	3 6	4 1	2 9	3 7
silver	3 3	3 6	2 8	2 10
DRUGS,				
Aloes, Hepatic	100 0	170 0	100 0	180 0
Socotrine	170 0	300 0	120 0	280 0
Cape, good	45 0	49 0	43 0	47 0
inferior	30 0	44 0	26 0	42 0
Barbadoes	50 0	380 0	60 0	360 0
Ambergris, grey	15 0	19 0	15 0	18 0
Angelica Root	20 0	35 0	20 0	35 0
Aulseed, Chiuwa star	180 0	200 0	100 0	105 0
German, &c.	20 0	39 0	19 0	38 0
Balsam, Canada	0 11	0 0	1 0	1 2
Capivi	1 8	1 9	1 5	1 6
Peru	4 9	4 11	4 9	4 10
Tolu	3 6	3 7	3 9	0 0
Bark, Cascarella	25 0	38 0	23 0	40 0
Peru, erown & grey	1 0	2 0	0 10	2 2
Calisaya, flat	3 0	3 4	3 3	4 0
quill	2 9	3 3	3 0	3 4
Carthageua	1 2	2 0	1 2	2 8
Pitayo	1 8	2 6	1 7	2 6
Red	2 6	9 0	2 6	8 0
Bay Berries	0 0	0 0	22 0	40 0
Bucca Leaves	0 3	0 11	0 2½	1 6
Camomile Flowers	25 0	65 0	25 0	65 0
Camphor, China	95 0	100 0	140 0	0 0
Canella alba	23 0	35 0	19 0	38 0
Cantharides	2 4	2 6	2 2	2 4
Cardamoms, Malabar, good	5 6	6 6	6 3	6 4
inferior	4 6	5 3	5 4	5 9
Madras	3 3	5 0	3 0	5 8
Ceylon	5 0	5 2	4 6	4 7
Cassia Fistula	20 0	35 0	20 0	45 0
Castor Oil, 1st pale	0 6	0 7½	0 5½	0 6½
2nd	0 4½	0 5½	0 4½	0 5½
inferior and dark	0 4½	0 4½	0 4½	0 4½
Bombay, in casks	0 4½	0 4½	0 0	0 0
Castorum	1 0	20 0	1 2	26 0
China Root	15 0	20 0	12 0	15 0
Cocculus Indicus	18 0	20 0	11 0	18 0
Cod Liver Oil	6 0	12 6	5 0	7 3
Colocynthis, apple	0 7	1 0	0 8	1 0
Colombo Root	90 0	120 0	25 0	55 0
Cream Tartar				
French	117 6	0 0	115 0	0 0
Venetian	120 0	0 0	117 6	0 0
grey	95 0	105 0	110 0	0 0
brown	85 0	92 6	97 6	102 6
Croton Seed	70 0	80 0	40 0	55 0
Cubobs	97 6	100 0	110 0	112 6
Cumin Seed	21 0	32 0	26 0	35 0
Dragon's blood reed	200 0	300 0	200 0	300 0
lump	90 0	260 0	95 0	260 0
Galangal Root	20 0	22 0	24 0	32 0
Gentian Root	18 0	19 0	18 0	19 0
Guinea Grains	130 0	137 6	47 0	50 0
Honey, Narbonne	40 0	80 0	60 0	80 0
Cuba	26 0	38 0	24 0	36 0
Jamaica	27 0	63 0	26 0	75 0
Ipecacuanha	8 0	8 3	6 4	6 6
Isiuglass, Brazil	1 10	4 6	0 10	3 10
East India	0 0	4 3	0 9	3 3
West India	3 2	3 4	3 0	3 3
Russian	0 0	11 0	0 0	13 0
Jalap	0 9	5 2	1 0	4 3

DRUGS—continued.				1864.		1864.		1863.		1863.	
		s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Juniper Berries	per cwt.	8	0	9	0	8	0	9	0	10	0
German and French . . .		6	0	10	0	8	0	10	0	0	0
Italian		8	0	10	0	8	0	10	0	0	0
Leimon Juice	per deg.	0	0½	0	0½	0	0½	0	0½	0	0
Liquorice	per cwt.	80	0	80	0	80	0	80	0	80	0
Spanish		80	0	80	0	80	0	80	0	80	0
Italian		2	7	2	9	3	0	3	6	3	6
Manna, flaky		1	4	0	0	1	6	0	0	0	0
Small		22	0	30	0	18	0	25	0	25	0
Musk	per oz.	12	0	15	6	10	6	12	6	12	6
Nux Vomica		18	0	19	6	16	0	18	0	18	0
Opium, Turkey		10	0	16	6	7	0	12	0	12	0
Egyptian		26	0	80	0	20	0	28	0	28	0
Orris Root	per cwt.	3	0	3	0	2	6	0	0	0	0
Pink Root	per lb.	85	0	105	0	00	0	160	0	160	0
Quassia (bitter wood) per ton		1	0	1	9	0	0	1	3	1	3
Rhatany Root	per lb.	2	9	6	0	1	6	4	6	4	6
Rhubarb, China, round . . .		3	0	0	3	1	8	4	6	4	6
flat		0	0	0	0	5	6	6	0	6	0
Dutch, trimmed		12	6	13	0	12	6	13	0	13	0
Russian		32	0	34	0	32	0	36	0	36	0
Saffron, Spanish		140	0	145	0	130	0	140	0	140	0
Salep	per cwt.	1	0	1	5	0	10	1	4	1	4
Sarsaparilla, Lima		0	11	1	2	0	9	1	1	1	1
Para		0	11	1	6	0	8	1	3	1	3
Honduras		1	0	2	3	1	2	2	2	2	2
Jamaica		14	0	15	0	0	0	0	0	0	0
Sassafras	per cwt.	32	0	33	0	27	0	36	0	36	0
Scammony, virgin	per lb.	12	0	23	0	12	0	23	0	23	0
second		3	6	4	0	4	4	4	6	4	6
Seneca Root		0	0	0	0	0	0	0	0	0	0
Senna, Calcutta		0	3½	0	4½	0	2	0	4½	0	4½
Bombay		0	4	1	6	0	4	1	4	1	4
Tinnevely		0	3½	0	8	0	3½	0	8	0	8
Alexandria		5	0	5	6	3	0	3	9	3	9
Snake Root		1	0	1	1	1	0	1	1	1	1
Spermaceti, refined		0	0½	0	2½	0	1	0	2½	0	2½
Equills		20	0	22	0	10	0	13	6	13	6
Tamarinds, E. India, per cwt.		15	0	23	0	18	0	40	0	40	0
West India		26	6	30	0	10	0	24	0	24	0
Terra Japonica—		20	0	26	6	25	0	26	0	26	0
Gambier	per cwt.	20	0	30	0	20	0	40	0	40	0
Cutch		26	0	38	0	25	0	35	0	35	0
Valerian Root, English . . .		11	0	12	0	2	0	0	0	0	0
Vanilla, Mexican	per lb.	11	0	12	0	2	0	0	0	0	0
Wormseed	per cwt.	100	0	120	0	100	0	120	0	120	0
GUM	per cwt.	30	0	85	0	15	0	65	0	65	0
Ammoniac, drop		200	0	240	0	220	0	250	0	250	0
lump		190	0	220	0	190	0	210	0	210	0
Animi, fine pale		160	0	180	0	160	0	180	0	180	0
bold amber		100	0	150	0	100	0	125	0	125	0
medium		40	0	95	0	50	0	95	0	95	0
small and dark		70	0	84	0	54	0	62	0	62	0
ordinary dark		54	0	68	0	34	0	80	0	80	0
Arabic, E. I., fine pale picked		40	0	50	0	20	0	30	0	30	0
unsorted, good to fine		20	0	30	0	15	0	30	0	30	0
red and mixed		120	0	100	0	115	0	180	0	180	0
siftings		65	0	110	0	50	0	110	0	110	0
Turkey, picked, good to fine		32	0	50	0	32	0	50	0	50	0
second and inferior		33	0	37	0	24	0	26	0	26	0
in sorts		57	0	64	0	42	0	50	0	50	0
Gedda		45	0	47	0	28	0	40	0	40	0
Barbary, white		26	0	34	0	24	0	25	0	25	0
brown		38	0	75	0	30	0	112	0	112	0
Australian		350	0	850	0	350	0	630	0	630	0
Amassetida, fair to good . .		280	0	300	0	280	0	300	0	300	0
Benjamin, 1st quality		50	0	240	0	50	0	200	0	200	0
2nd		85	0	95	0	85	0	100	0	100	0
3rd		80	0	95	0	85	0	100	0	100	0
Copal, Angola, red		0	4	1	0	0	5	1	6	1	6
pale		25	0	50	0	25	0	44	6	44	6
Benguela		35	0	45	0	36	0	48	0	48	0
Sierra Leone	per lb.	160	0	120	0	100	0	120	0	120	0
Manilla	per cwt.	150	0	160	0	100	0	200	0	200	0
Damarin, pale		80	0	140	0	90	0	150	0	150	0
Galbanum		0	6	1	6	0	6	1	5	1	5
Gamboge, picked, plpe		350	0	500	0	180	0	260	0	260	0
in sorts		20	0	45	0	37	0	52	0	52	0
Gmalaum	per lb.	4	6	5	0	5	0	5	3	5	3
Kowrie		140	0	1	0	150	0	170	0	170	0
Mastic, picked	per lb.	70	0	1	0	70	0	120	0	120	0
Myrrh, gl. and fine, per cwt		78	0	91	0	75	0	84	6	84	6
sorts		48	0	76	0	48	0	68	0	68	0
Olibanum, pale drop		18	0	40	0	16	0	35	0	35	0
amber and yellow		75	0	80	0	48	0	50	0	50	0
mixed and dark		60	0	100	0	82	0	110	0	110	0
Senegal		100	0	200	0	100	0	200	0	200	0
Sandrac		160	0	130	0	100	0	120	0	120	0
Tragacanth, leaf		100	0	200	0	100	0	200	0	200	0
in sorts		100	0	130	0	100	0	120	0	120	0
OILS	per tun	£	s.	£	s.	£	s.	£	s.	£	s.
Sal		42	0	48	0	42	0	48	0	48	0
Sperm. body		72	0	75	0	62	0	68	0	68	0
Col		51	0	52	0	49	10	50	0	50	0
Whale, Greenland		0	0	0	0	0	0	0	0	0	0
South Sea, pale		42	0	48	0	41	10	42	0	42	0
East India Fish		37	0	40	0	38	10	40	0	40	0
Olive, Gally oil	per tun	1	0	62	0	20	0	60	0	60	0
Florence, half		20	0	21	0	1	0	1	2	1	2
Cocunut, Coshin	per cwt.	40	0	41	0	40	0	40	6	40	6
Clyen		47	0	38	6	47	0	47	6	47	6
Bidney		34	0	38	6	33	0	46	0	46	0
Ground Nut and Gin		38	6	40	0	48	0	47	0	47	0
Bontay		38	6	40	0	48	0	47	0	47	0